

A. T. A.
OVERHAUL MANUAL

BY-PASS OXYGEN VALVE
11600 SERIES

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OVERHAUL MANUAL

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BY-PASS OXYGEN VALVE

1. General

- A. This manual provides overhaul instructions with illustrated parts list for By-Pass Oxygen Valves, part number 11600-1, 11600-3, and 11600-5 (See Figure 1).

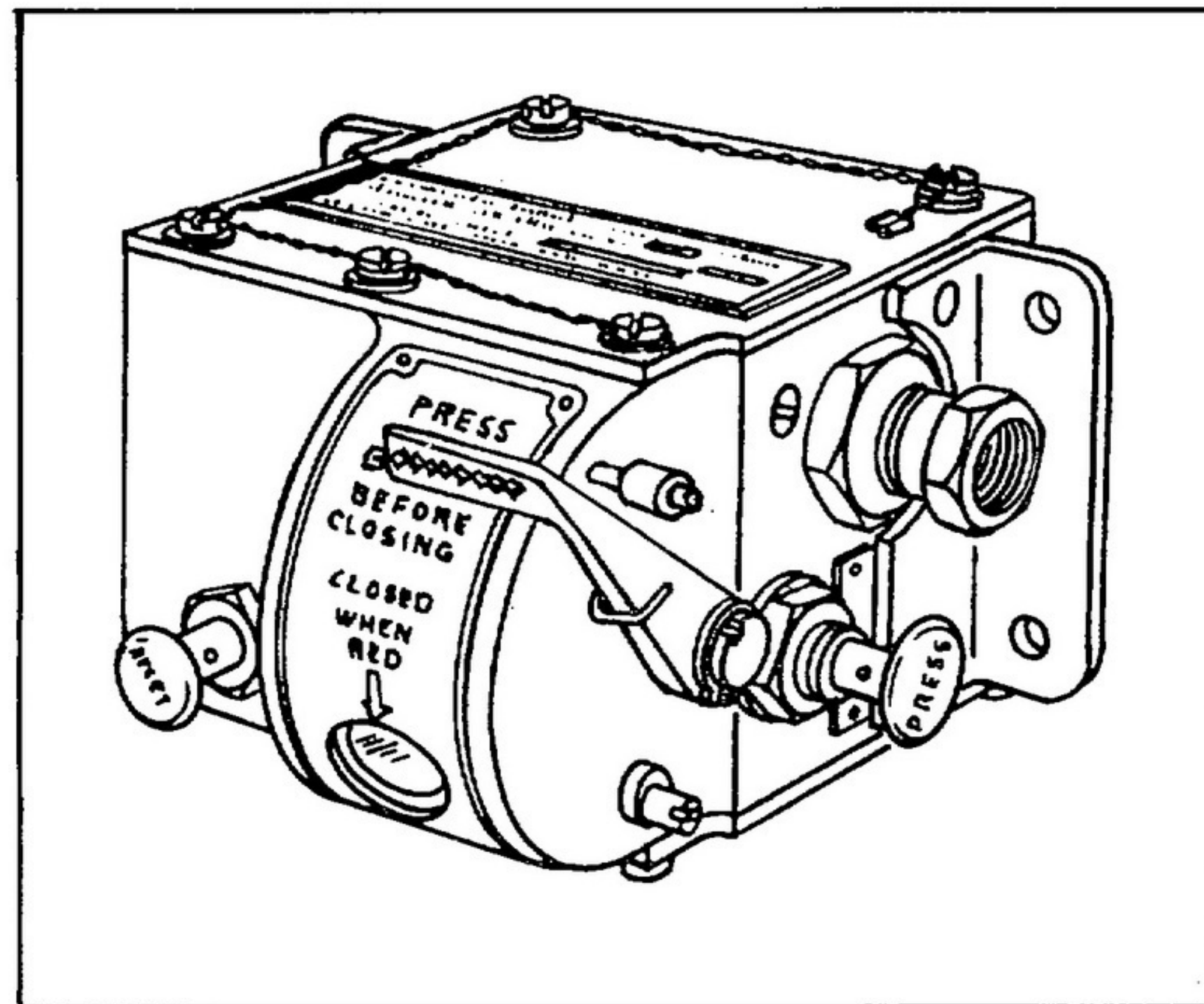
2. Description and Operation

A. Purpose of Equipment

- (1) The by-pass oxygen valve is a solenoid/manually controlled slow opening oxygen turn on valve. It forms part of the aircraft emergency oxygen system when installed in a pressurized cabin, and provides an alternate method of providing oxygen in the event of cabin decompression. The valve may be opened electrically by a crew member from the cockpit of the aircraft or manually at the valve.

B. Typical Installation

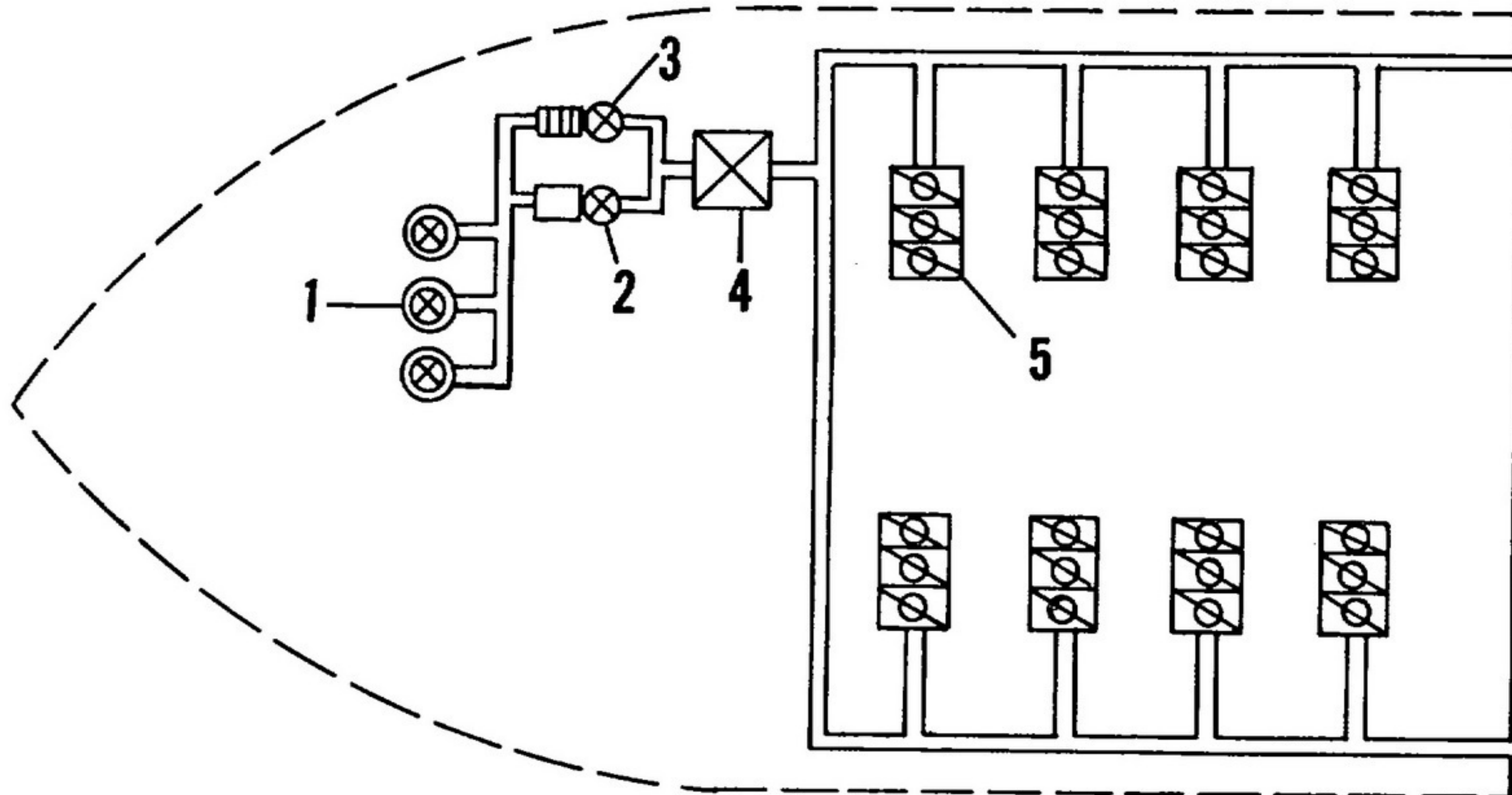
- (1) A typical pressurized cabin installation of the by-pass oxygen valve is shown in Figure 2. An oxygen source consisting of a series of high pressure oxygen storage cylinders (1) is connected to the inlet of



By-Pass Oxygen Valve
Figure 1

solenoid operated by-pass oxygen valve (2) and an aneroid operated altitude opened valve assembly (3), through an oxygen regulator (4), to the passenger mask compartments (5).

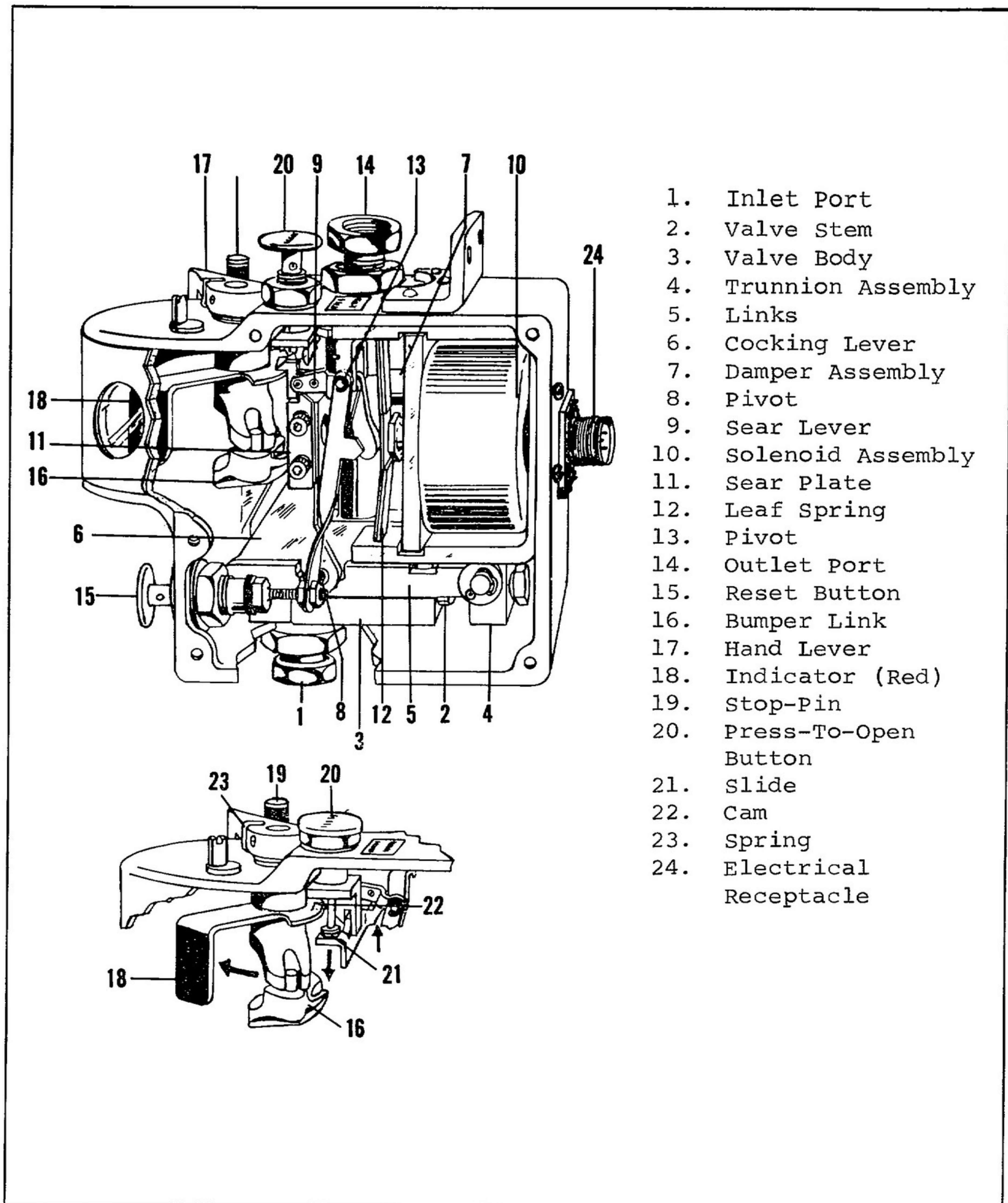
- (2) Valves (2 and 3) are normally closed. Altitude opened valve assembly (3) is preset to automatically open in the event of cabin decompression, thereby allowing oxygen to flow through regulator (4) to passenger mask compartments (5). If required, by-pass oxygen valve (2), used as backup for, and installed in parallel with, the altitude opened valve, may be opened electrically by a crew member from the cockpit of the aircraft, to supply oxygen to the passenger compartments (5) through regulator (4).



- | | |
|--------------------------------|-------------------------------|
| 1. Oxygen Cylinders | 3. Altitude Opened Valve Assy |
| 2. By-pass Oxygen Valve | 4. Oxygen Regulator |
| 5. Passenger Mask Compartments | |

Typical Installation
Figure 2

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By-Pass Oxygen Valve
Figure 3

C. Operation (See Figure 3)

- (1) Closed Position. High pressure oxygen enters the valve at inlet port (1). Flow through the valve is prevented by valve stem (2) acting against its seat in body (3). The valve stem is connected through trunnion assembly (4), a pair of links (5) and cocking lever assembly (6) to spring loaded damper assembly (7). Opening of the valve is restrained by sear lever (9) which latches onto sear plate (11).
- (2) Opening Electrically. When solenoid assembly (10) is actuated through receptacle (24) one end of sear lever (9) contacts leaf spring (12) on the solenoid assembly. The leaf spring is forced forward over center position and rotates sear lever (9) around pivot (13), away from sear plate (11). Cocking lever (6) rotates around pivot (8) causing valve stem (2), through the connecting linkage, to move away from its seat thus allowing oxygen to flow out of valve outlet port (14).
- (3) Damper Assembly. The damper assembly retards the opening of the valve, reducing a pressure build-up at downstream components to guard against temperature rise due to adiabatic compression. Silicone fluid, contained within the damper assembly, bleeds past the clearance between the cylinder and piston and retards movement of the damper piston when the valve is electrically or manually opened.
- (4) Resetting and Closing. The valve can only be reset and closed after solenoid assembly (10) is closed electrically. Leaf spring (12) is returned to the cocked position by depressing reset button (15) on



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the front of the valve. This action also allows sear lever (9) to move into position for latching sear plate (11). Sear plate (11) is moved to the latch position by bumper link (16) which is actuated by moving hand lever (17) to the closed position. Movement of the hand lever to the closed position also moves the valve stem and its connecting linkage to the closed position and compresses the spring on damper assembly (7). The valve is maintained in the closed position by the sear lever latching on the sear plate. On valve, 11600-3, movement of hand lever (17) to the closed position moves red indicator (18) to a position where it is visible in the window of the valve body. With red indicator (18) positioned in the window, the hand lever returns to its original position against stop pin (19) due to the action of spring (23).

NOTE: Red indicator (18) remains in the window of the valve body until the valve assembly is opened.

- (5) a. Manual Opening of the 11600-1 and 11600-5 valves. Manual opening of the valve bypasses the solenoid assembly. Movement of hand lever (17) to the open position causes cam (22) to unlatch sear lever (9) from sear plate (11). The remaining linkage action is the same as electrical opening (refer to paragraph C (2)).
- b. Manual Opening of the 11600-3 valve. Manual opening of this valve also by-passes the solenoid assembly. Depressing "PRESS TO OPEN" button (20) causes slide (21) to push against bumper link (16) rotating cam (22) against sear lever (9) unlatching it from sear plate (11). The remaining linkage action is the same as described in the electrical opening (refer to paragraph C (2)).

NOTE: Reset button (15) must be depressed prior to manually closing the valve after each operation. This is necessary to recock the leaf spring on the solenoid assembly.

3. Disassembly (See figure 18)

NOTE: Prior to disassembling a 11600 Series By-Pass Oxygen Valve, note the dash number and determine the parts applicable to that assembly (refer to "EFFECT CODE" column of the Illustrated Parts List). Disregard any instructions that do not apply to the particular assembly being overhauled.

- A. Remove covers (4 and 5) by removing seal (6), lockwire (7), screws (8), and washers (9).
- B. Remove push button (10) by removing pin (11). Unscrew nut (12) and remove washers (13 and 14). Remove lever (15) by removing pin (16); remove slide (17) (gasket (18) may now be removed from slide (17)); then remove guide assembly (19), spring (20) and pin (21).
- C. Remove push button (22) by unscrewing setscrew (23). Remove spring (24) and nuts (25) (remove lever (32) from push rod (26)). Remove push rod (26) and gasket (27). Remove retainer (28) by unscrewing and removing nut (29) and washer (30). Then remove gasket (31) and lever (32).

NOTE: To remove lever (32), remove retaining ring (part of solenoid assembly (40)); remove the lever, and replace the retaining ring.

- D. Remove connector (33) by removing seal (34), lockwire (35), screws (36), and washers (37).
- E. Manually open the valve (refer to paragraph 2, step C (5)). Remove solenoid assembly (40) by removing nuts (41) and washers (42). Remove tubing (38 and 39) from electrical leads.

WARNING: DO NOT ATTEMPT TO DISASSEMBLE THE SOLENOID ASSEMBLY TO REPLACE DEFECTIVE PARTS. IF ANY PART OF THIS ASSEMBLY IS FOUND TO BE DEFECTIVE, REPLACE THE ENTIRE SOLENOID ASSEMBLY.

- F. Close the valve (refer to paragraph 2, step C (4)). Remove retaining ring (45) and manually open valve (refer to paragraph 2, step C (5)). Drive pin (44) out and remove damper assembly (43) from the valve body.

WARNING: DO NOT ATTEMPT TO DISASSEMBLE THE DAMPER ASSEMBLY. A DEFECTIVE DAMPER ASSEMBLY MAY CAUSE THE VALVE TO OPEN TOO QUICKLY. IF ANY PART OF THE DAMPER ASSEMBLY IS FOUND TO BE DEFECTIVE, REPLACE THE ENTIRE DAMPER ASSEMBLY.

- G. Remove hand lever (46) by removing spring pin (47).
- H. Remove washer (48) and disassemble crank assembly (50 through 56) as follows:
 - (1) Remove cam (50) by removing pins (51); then remove washer (52).
 - (2) Disassemble crank subassembly (54 through 56) by removing pin (54) and crank (56) from shaft (55).
- I. Remove control crank assembly (59 through 62) by removing pin (58).
- J. Disassemble the control crank assembly by removing indicator (59) which is held by pins (60); then remove washer (61) and crank (62).
- K. Remove lever and shaft assembly (65 through 72) and disassemble as follows:
 - (1) Remove hand lever assembly (66 and 67) by removing ring (65).
 - (2) Remove sleeve (68) by removing pin (69), then remove spring (70), washer (71) and shaft (72).
- L. Remove trunnion links (73) by removing pins (74) and washers (75).
- M. Remove cocking lever assembly (78 through 88) by removing pins (77) as follows:
 - (1) Assemble a No. 6-32 nut onto a No. 6-32 by 3/4 inch lg socket head screw.
 - (2) Place a 1/4 inch hex nut over pin (77) and place a No. 6 flat washer on the nut.

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- (3) Screw the No. 6-32 screw and nut assembly into pin (77).
 - (4) Tighten the No. 6-32 nut on the screw against the washer on the 1/4 inch hex nut.
 - (5) Hold the No. 6-32 nut stationary and tighten the No. 6-32 screw. This action pulls pin (77) out of body (119).
 - (6) Repeat this procedure on other pin (77).
- N. Disassemble the removed cocking lever assembly (78 through 88) as follows:
- (1) Remove detent spring (78) by removing screws (79) and washers (80).
 - (2) Remove sear plate (81) by removing lockwire (82), screws (83), washers (84), and pin (85).
 - (3) Remove firing spring pin (86) and link pins (87) from cocking lever (88).
- O. Remove bumper link assembly (91 through 93) by removing ring (90); then disassemble the bumper link assembly by removing pin (91) and sleeve (92) from bumper link (93).
- P. Remove nuts (94) and washers (95). Unscrew and remove connectors (96) and washers (97).
- NOTE: Valve body (119) may tend to rotate when unscrewing connectors (96). To prevent rotation, clamp valve body (119) to automatic valve body (141) using a spacer block on the flats of valve body (119) to build up the thickness to match the width of the automatic valve body. (Spacer blocks can be easily fabricated of wood or phenolic). Use care to avoid damaging the external threads of connectors (96).
- Q. Remove altitude triggered valve assembly (110 through 119) by cutting and removing lockwire (106), screws (107 and 108) and washers (109).



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- R. Remove bushing (98) from the removed altitude triggered valve assembly by unscrewing setscrew (99) and plug (100); then remove trunnion assembly (102 and 103).
- S. Disassemble altitude triggered valve assembly (110 through 119) as follows:
 - (1) Remove pin (11) and washers (111 and 112).
 - (2) Remove valve cap (113); then remove retainer (114) and packing (115) from valve cap (113).
 - (3) Remove washer (116) and valve stem assembly (117) from body (119).
- T. Remove lever stop (120) by removing nut (121) and washer (122).
- U. Remove cushion (123) by removing stop pin (124).
- V. Lift corner of pressure sensitive label (125) with fingernail and peel off.

NOTE: Remove any adhesive that may remain after tape is removed, by using cleaning procedure outlined in paragraph 4.

- W. Disassemble automatic valve body assembly (128 through 141) as follows:
 - (1) Remove screw (128), plug (129), bushing (130), and pin (132).
 - (2) Remove window (133) and instruction plate (139) by removing screws (140).
 - (3) Remove identification plate (137) and instruction plate (134) by removing screws (136 and 138) from body (141).

4. Cleaning

WARNING: DO NOT ALLOW OIL, GREASE, FLAMMABLE SOLVENTS, OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO PRESSURIZED OXYGEN.

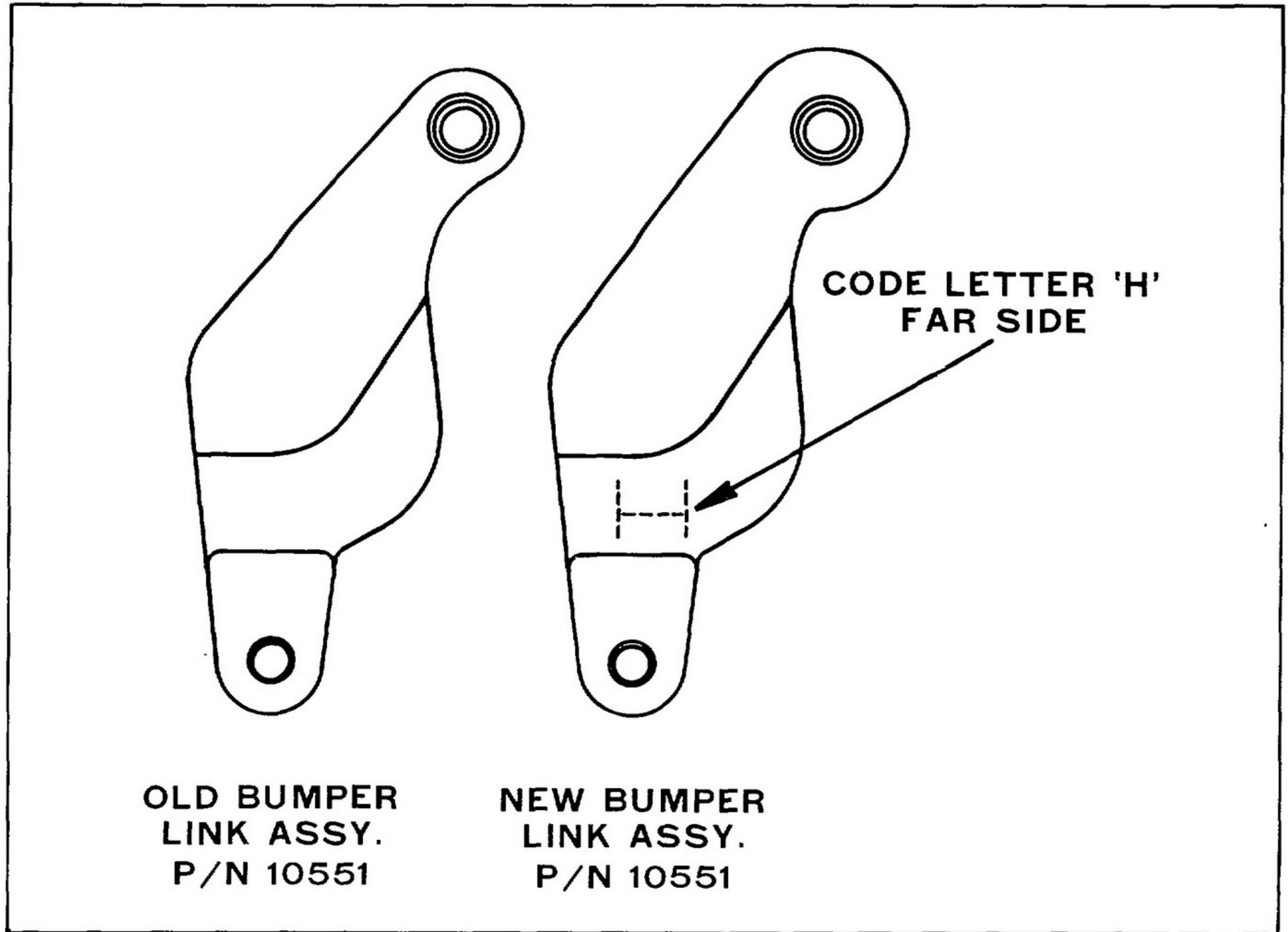
SUCH MATERIALS, AS WELL AS DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE, IGNITE AND RESULT IN AN EXPLOSION.

- A. Remove dirt and foreign particles from equipment by wiping with a clean lint-free cloth, or by blowing with clean oil-free air or nitrogen.
- B. Metal parts which come in contact with oxygen and have become contaminated with grease can be cleaned as follows:
 - (1) Use a vapor degreasing method with stabilized trichlorethylene conforming to Specification MIL-T-7003. Blow clean and dry with a stream of clean, dry, oil-free air or nitrogen.

WARNING: USE TRICHTHLORETHYLENE IN A WELL-VENTILATED AREA ONLY. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN AND INHALATION OF TOXIC VAPORS.

5. Inspection

- A. Carefully inspect all metal parts for cracks, nicks, dents, burrs or tool marks which might cause malfunction of the valve assembly.
- B. Inspect valve stem assembly (117, figure 18) for scoring and other signs of damage (refer to paragraph 6, step E).
- C. Carefully inspect damper assembly (43) for evidence of leakage (refer to paragraph 6, step D).
- D. Inspect solenoid assembly (40) for worn insulation and/or broken or damaged electrical leads (refer to paragraph 6, step C).
- E. Check all threads for burrs and signs of damage.
- F. Inspect bumper link assembly (91 through 93) for code letter "H" (see figure 4). If bumper link being inspected does not meet this requirement, discard and replace with a new bumper link assembly.

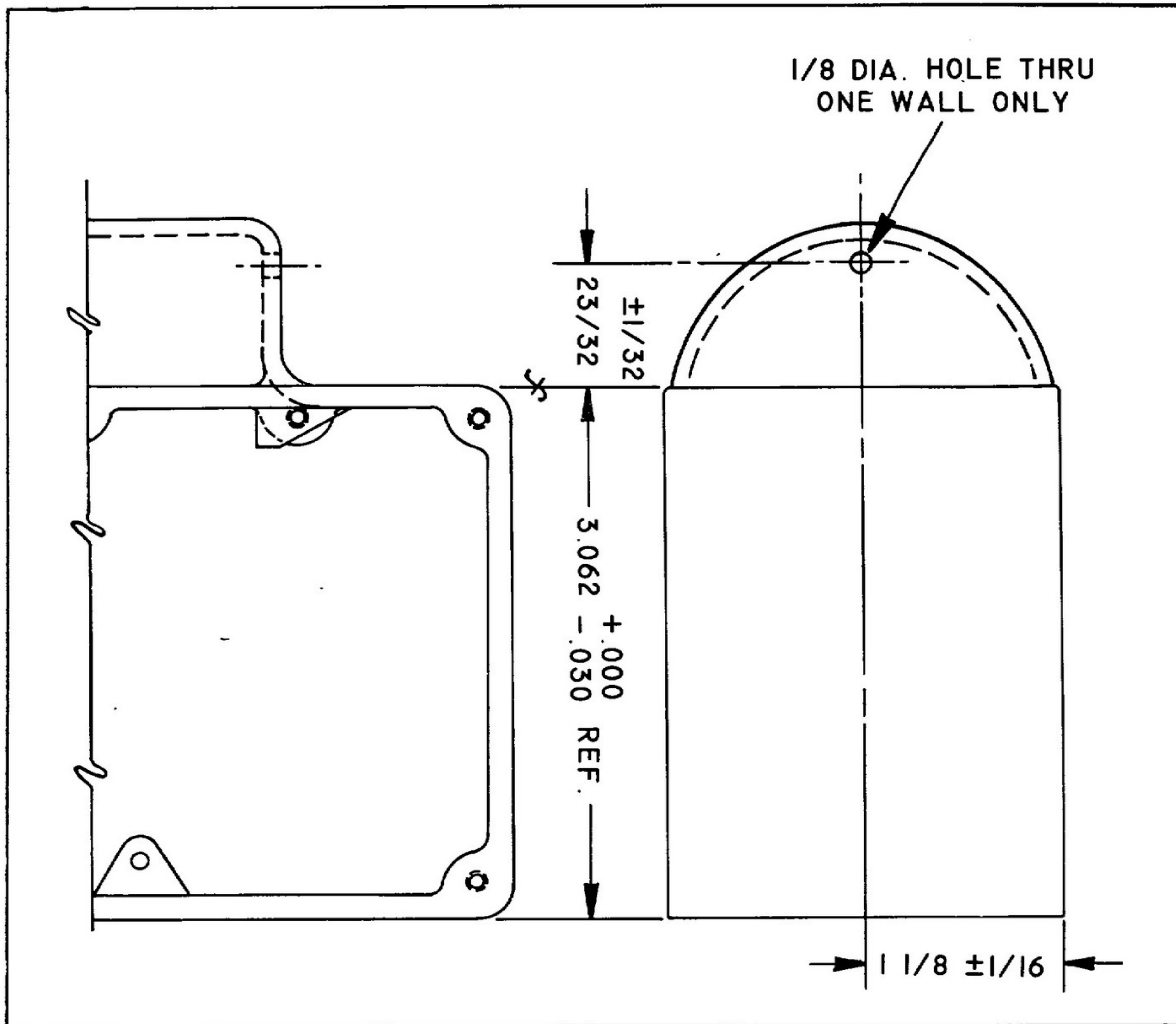


Bumper Link Assembly
Figure 4

- G. Inspect automatic valve body (141, figure 18) for 1/8 inch drain hole (see figure 5 and paragraph 6, step G. (1) and (2).)

6. Repair and Replacement

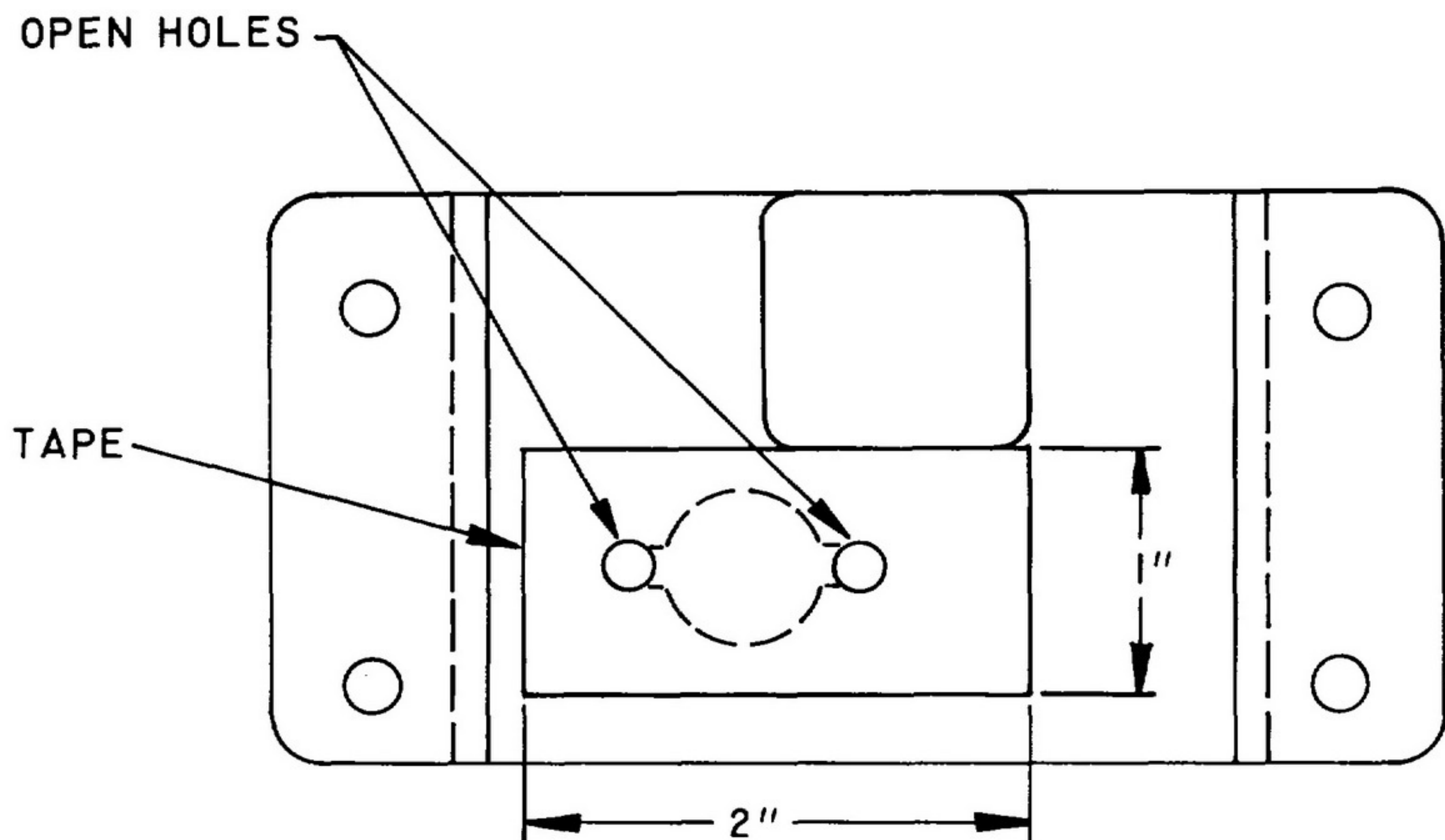
- A. Polish metal parts sufficiently to remove burrs, nicks, or tool marks. If protective finish is polished off, passivate stainless steel parts, and brush chemical film on aluminum parts per Specification MIL-C-5541.
- B. Replace gaskets (18, 27 and 31, figure 18) and preformed packing (115).
- C. Solenoid assembly (40) should not be repaired at overhaul facilities. If any part of this assembly is defective or requires repair, replace the entire assembly.



Side View
 Automatic Valve Body Assy
 Figure 5

- D. If leakage occurs at damper assembly (43) or the damper loses its dampening quality, replace the entire damper assembly since repair is impractical.
- E. Replace valve stem assembly (117) if part shows signs of damage or scoring.
- F. Replace all obviously defective parts.
- G. Rework automatic valve body (141) as follows, if drain hole is not present (refer to paragraph 5, step G).

- (1) Drill 1/8 inch hole through one wall only of automatic valve body in location shown in figure 5.
 - (2) After drilling, deburr wall surfaces and coat with alodine solution or equivalent.
- H. Using pressure sensitive label (140, figure 18), center tape to completely cover holes in bottom of automatic valve body (see figure 6).
- I. Using pencil or similar instrument, punch label to open two holes for threaded solenoid studs to pass through (see figure 6).



Bottom View
Automatic Valve Body Assy
Figure 6

7. Fits and Clearances

A. Table I presents the torque values necessary to assemble the unit.

UNIT	TORQUE
Valve Cap (113, figure 18)	175 Inch Pounds
Connectors (96, figure 18)	250 Inch Pounds
Nuts (94, figure 18)	140 Inch Pounds

Assembly Torque Values
Table I

8. Assembly (See figure 18)

NOTE: Table II lists the consumable material necessary for assembly.

MATERIAL	DESCRIPTION	MANUFACTURER*	REFER TO PARAGRAPH
Cement	Cement EC 847 (MIL-C-4003)	VO4633	8.B
Glyptol Red Enamel	Glyptol No. 1201	VO1139	8.J.(4)
Leak Test Solution	Leak-Tek Formula 16-OX (MIL-L-25567)	VO3530	8.H.(4).(c) 8.M.(4)
*Refer to paragraph 13.A.(5) for Vendor's Code.			

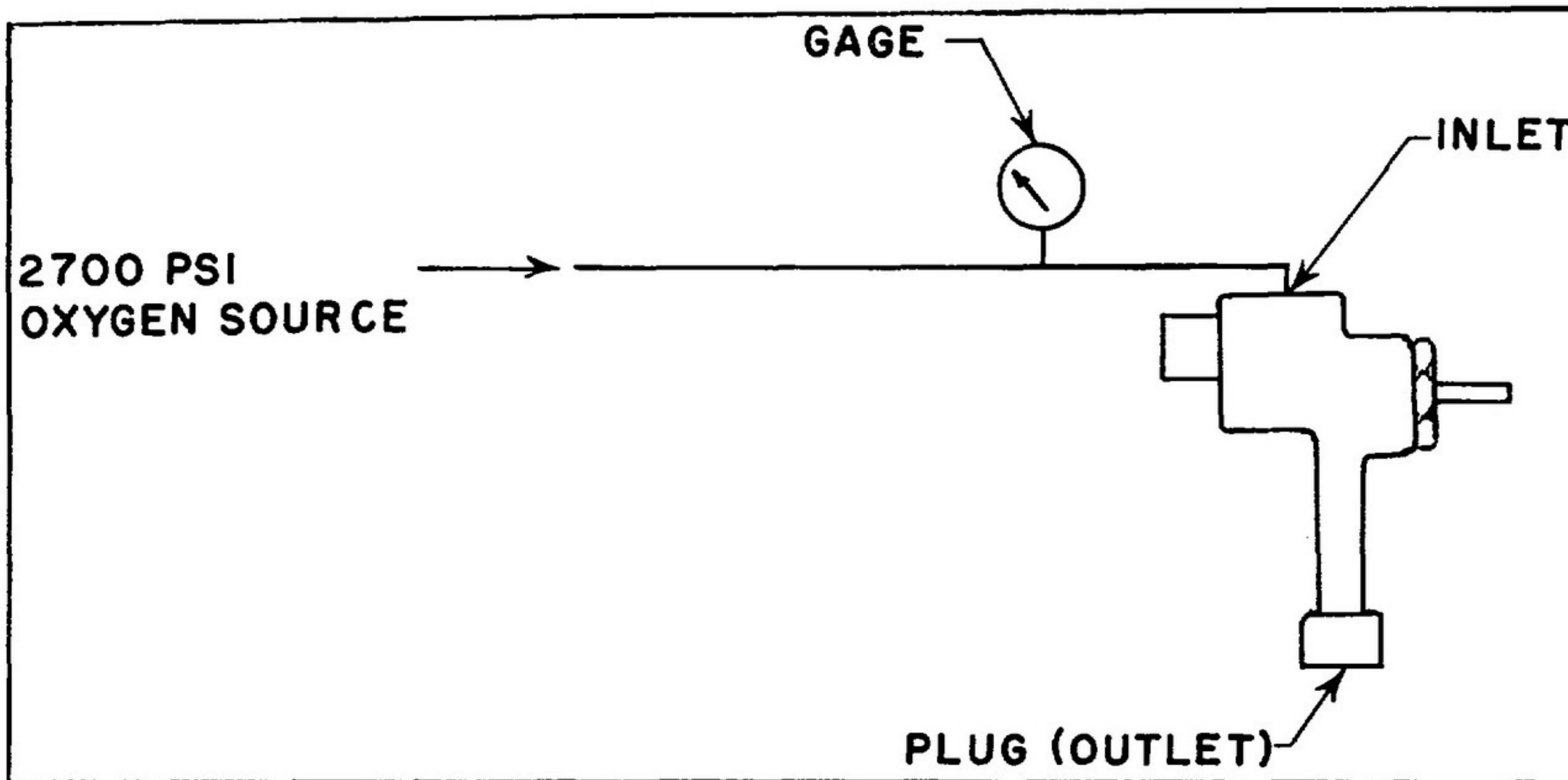
List of Consumable Materials for Assembly
Table II

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NOTE: Prior to reassembling a 11600 Series By-Pass Oxygen Valve, note the dash number and determine the parts applicable to that assembly (refer to "EFFECT CODE" column of the Illustrated Parts List). Disregard any instructions that do not apply to the particular assembly being overhauled.

- A. Secure instruction plate (134) to body (141) with screws (136). Secure identification plate (137) to body (141) with screws (138).
- B. Secure instruction plate (139) to body (141) with screws (140). Secure window (133) to body (141) using cement EC847.
- C. Press bushing (130) and pin (132) within body (141).
- D. Thread screws (128) into body (141).
- E. Insert plug (129).
- F. Place cushion (123) on pin (124) and screw pin (124) into body (141).
- G. Secure stop (120) in place with nut (121) and washer (122).
- H. Assemble altitude triggered valve assembly (110 through 119) as follows:
 - (1) Place valve stem assembly (117) in valve body (119).
 - (2) Place retainer (114) and packing (115) into valve cap (113). Place washer (116) in place and torque valve cap (113) into valve body (119) (refer to Table I).
 - (3) Place washers (111 and 112) on valve stem assembly (117) and secure with pin (110).
 - (4) Perform a leak test of the assembled altitude triggered valve assembly (110 through 119) in accordance with the test setup illustrated in figure 7 and the following procedure.
 - (a) Plug the outlet port.

- (b) Slowly apply 2700 psi oxygen pressure to inlet port.
- (c) Apply leak test solution to area of valve cap (113, figure 18). No leakage shall be evident.
- (d) After completion of test, close off source pressure, remove valve assembly from test setup and remove plugs, blow dry with a stream of clean, dry, oil-free air.



Leak Test Setup No. 1
 Figure 7

- I. Continue assembly by placing link pins (102) into trunnion (103). Place trunnion assembly (102 and 103) on valve stem assembly (117). Screw valve stem adjustment bushing (98) into trunnion assembly (102 and 103). Place plug (101) and setscrew (99) in trunnion assembly. Do not tighten setscrew (99) at this point in assembly.
- J. Assemble cocking lever assembly (78 through 88) as follows:
 - (1) Press pins (86) into and flush with cocking lever (88).
 - (2) Press pin (87) into cocking lever (88).
 - (3) Locate sear plate (81) on the bottom of cocking lever (88) and secure in place with screws (83) and washers (84). Do not install pin (85) or lockwire

(82) until after adjustment of sear plate (81) at completion of assembly.

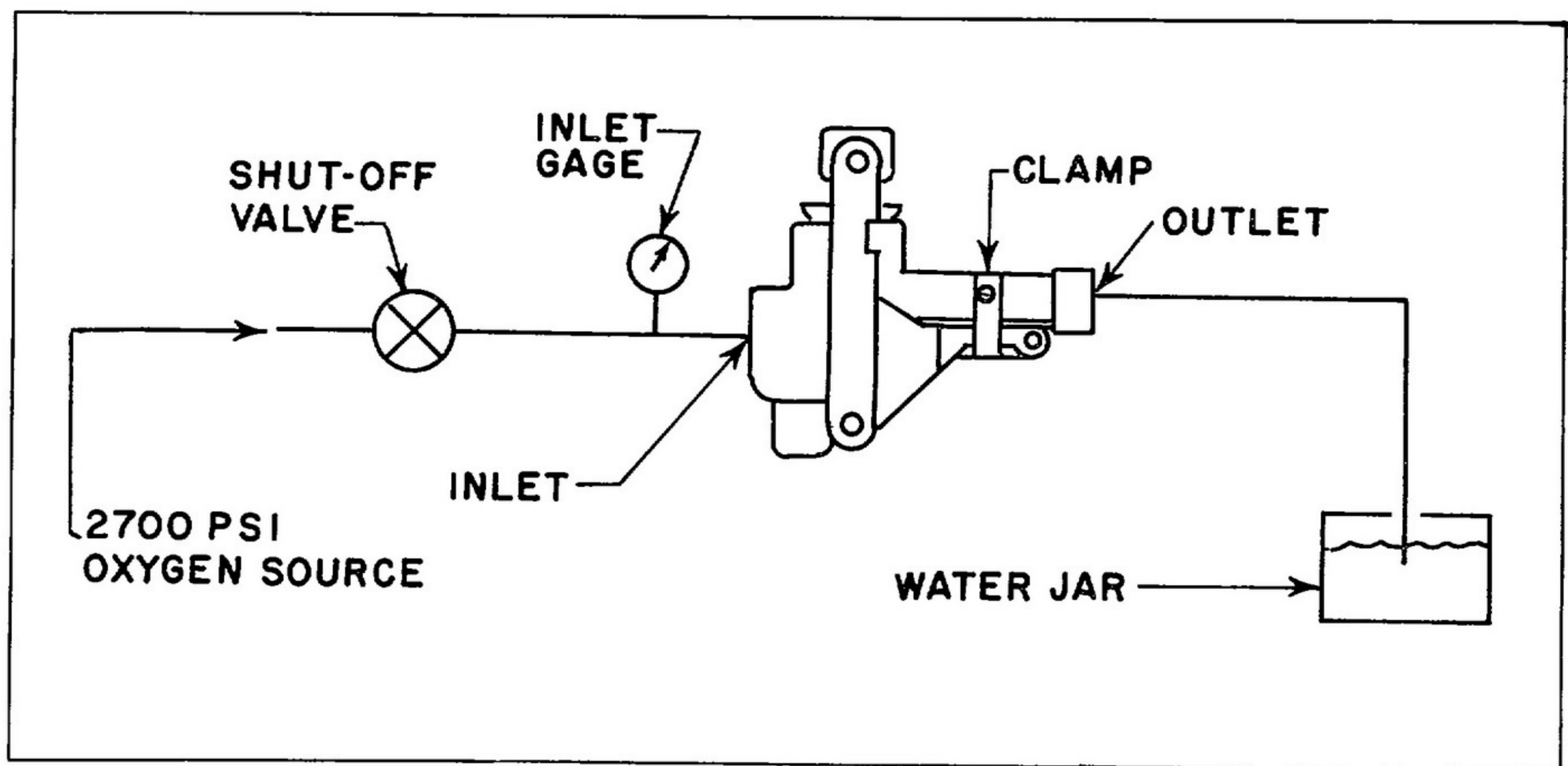
(4) Assemble detent spring (78) with screws (79) and washers (80). Apply Glyptol 1201 to the threads of screws (79) prior to assembly.

K. Secure assembled cocking lever assembly (78 through 88) to valve body (119) with pins (77).

L. Secure trunnion links (73) in place with pins (74) and washers (75).

M. Perform a leak test of the components assembled in steps I through L, in accordance with the test setup illustrated in figure 8 and the following procedure.

(1) Attempt to close the valve assembly by moving cocking lever (88, figure 18) parallel to the stem of valve body (119). Cocking lever (88) should never be forced into the closed position. If considerable force is required to close the valve assembly, it is an indication that valve stem adjusting bushing (98) is improperly adjusted. Adjust the valve stem adjustment bushing as follows:



Leak Test Setup No. 2
Figure 8

- (a) Loosen setscrew (99) and back valve stem adjusting bushing (98) a few turns out of trunnion (103). A clearance of approximately 1/16 inch should exist between the back face of cocking lever (88) and the stem of valve body (119).

CAUTION: THE ADJUSTMENT FOR VALVE STEM SEATING PRESSURE IS EXTREMELY SENSITIVE. OVER-ADJUSTMENT CAN LEAD TO CONSIDERABLE INTERNAL DAMAGE.

- (b) After adjustment, tighten setscrew (99).

NOTE: After setting the 1/16 inch clearance, use a clamp, or an equivalent device, to maintain the back face of cocking lever (88) and the stem of valve body (119) in position.

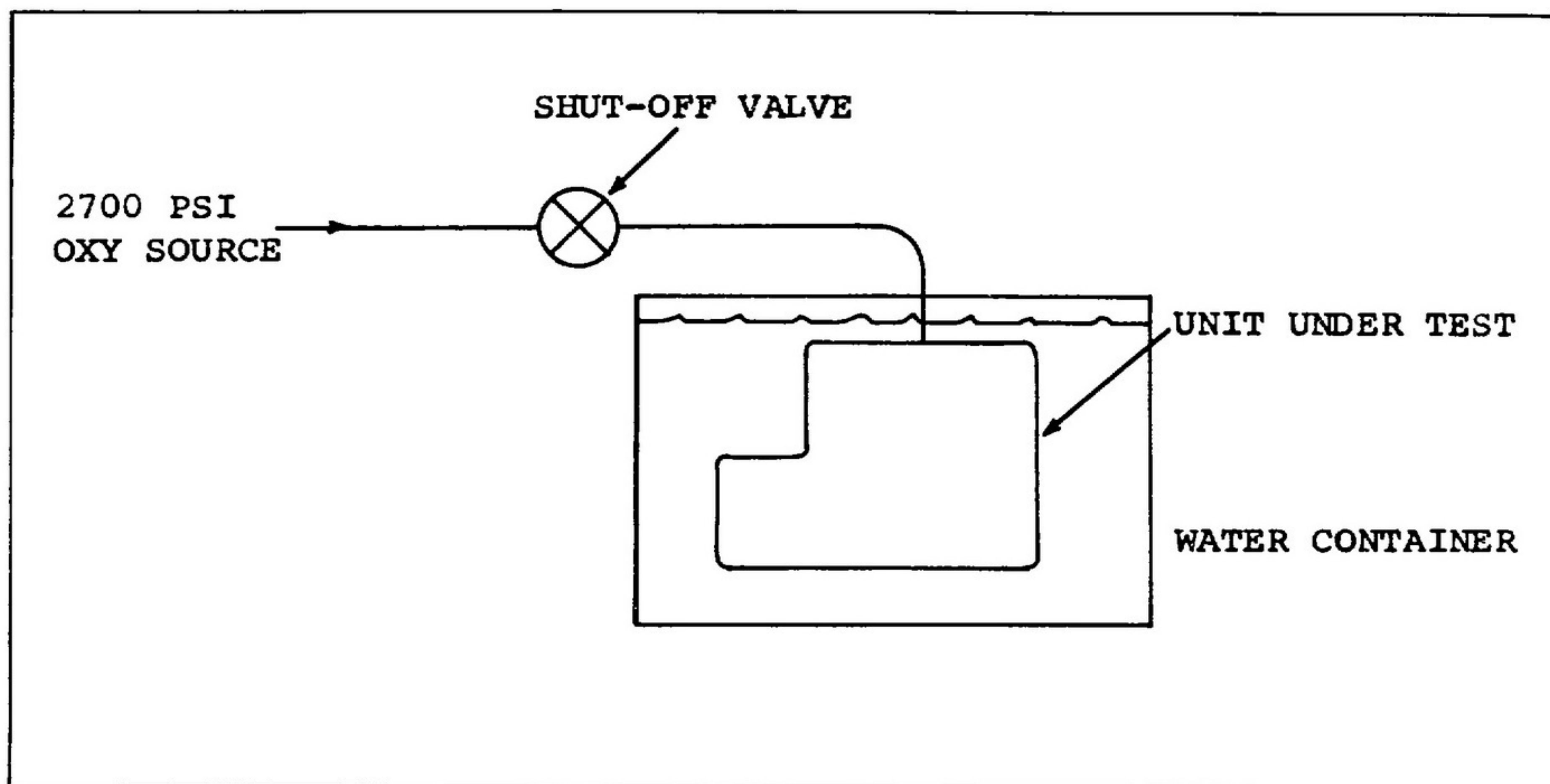
- (2) Close the valve assembly after adjustment.
- (3) Apply 2700 psi oxygen to the inlet port by slowly opening the shut-off valve.
- (4) Apply leak test solution to area of valve cap (113) and valve stem assembly (117).
- (5) There shall be no leakage. Bubbles indicate leaks which must be corrected before continuing.
- (6) There shall be no leakage (leakage indicated by bubbles in water jar) at valve outlet port. If bubbles appear, oxygen is flowing through valve assembly, indicating a need for adjustment of valve stem adjusting bushing (98). Adjust the valve assembly per steps (a) and (b) above until all leakage through the valve is eliminated.
- (7) On valve 11600-5, repeat steps (3) through (5) using an oxygen source pressure of 5 psi and 50 psi respectively.
- (8) After completion of test, close shut-off valve, remove valve from test setup, remove the clamp, blow dry with a stream of dry, oil-free air, and

continue assembly.

- N. Assemble control crank subassembly (54) through (56) by attaching shaft (55) to control crank (56) with pin (54).
- O. Assemble control crank assembly (50 through 56) by securing cam (50) and washer (52) to shaft (55) with pins (51). Rivet both pin ends and file flush with the surface of the control crank.
- P. Place shaft (55) through its opening in valve body (141).
- Q. Place washer (48) on shaft (55) and attach hand lever (46) to the shaft with pin (47).
- R. Assemble control crank assembly (59 through 62) by securing washer (61) and indicator (59) to control crank (62) with pins (60). Rivet both pin ends and file flush with the surface of the control crank.
- S. Assemble lever and shaft assembly (65 through 72) by placing washer (71) and spring (70) on shaft (72); then place sleeve (68) on shaft (72) and retain with pin (69). Press pin (66) into hand lever (67); then place hand lever assembly (66 and 67) over sleeve (68) and retain with retaining ring (65).
- T. Assemble control crank assembly (59 through 62), and lever and shaft assembly (65 through 72) to automatic valve body (141) and secure with pin (58).
- U. Press pin (91) and sleeve (92) into bumper link (93). Secure assembled bumper link assembly (91 through 93) to link pin (131) with retaining ring (90). Pin (91) must fit into the fork on control crank (56 or 62) without evidence of binding.
- V. Place the components assembled in steps I through L, in body (141) and secure with screws (107 and 108), washers (109), and lockwire (106).
- W. Install washers (97) and connectors (96). Clamp valve body (119) to body (141), using spacer blocks on the flats of valve body (119) to build up the thickness of valve body (119), to the width of body (141). Torque the

connectors into the valve body (refer to Table I).

- X. Place washers (95) on connectors (96); then torque nuts (94) on the connectors (refer to Table I). Bend the tabs of washers (95) to prevent accidental opening of nuts (94).
- Y. Perform a leakage test of the partially assembled by-pass oxygen valve in accordance with the test setup illustrated in figure 9 and the following procedure.



Leak Test Setup No. 3
Figure 9

- (1) Plug the outlet port of unit under test.
- (2) Open the valve by moving cocking lever (88, figure 18) away from the stem of valve body (119).
- (3) Immerse the test unit in the water. Apply 2700 psi oxygen to the inlet port by slowly opening the shut-off valve.
- (4) Observe connectors (96) and area of valve cap (113) for leaks. No leakage shall be evident. Bubbles indicate leaks which must be corrected before continuing.



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(5) After completion of test, close shut-off valve, remove unit under test from test setup and remove plug, blow dry with a stream of clean, dry oil-free air, and continue assembly.

Z. Place solenoid assembly (40) in body (141). Secure the solenoid in position with nuts (41) and washers (42). Searing cam (50) or indicator (59) must fit into the fork in the sear lever on solenoid assembly (40).

NOTE: Check operation of hand lever (46 or 67) on control crank (56 or 62). There should be not evidence of binding.

AA. Install damper assembly (43). Connect the cylinder and of the damper to pin (87) on the cocking lever assembly with retaining ring (45). Assemble the piston lug of the damper assembly to body (141) with pin (44).

AB. Assemble connector (33) to body (141) using screws (36), washers (37), lockwire (35), and seal (34).

AC. Assemble and install the reset assembly as follows:

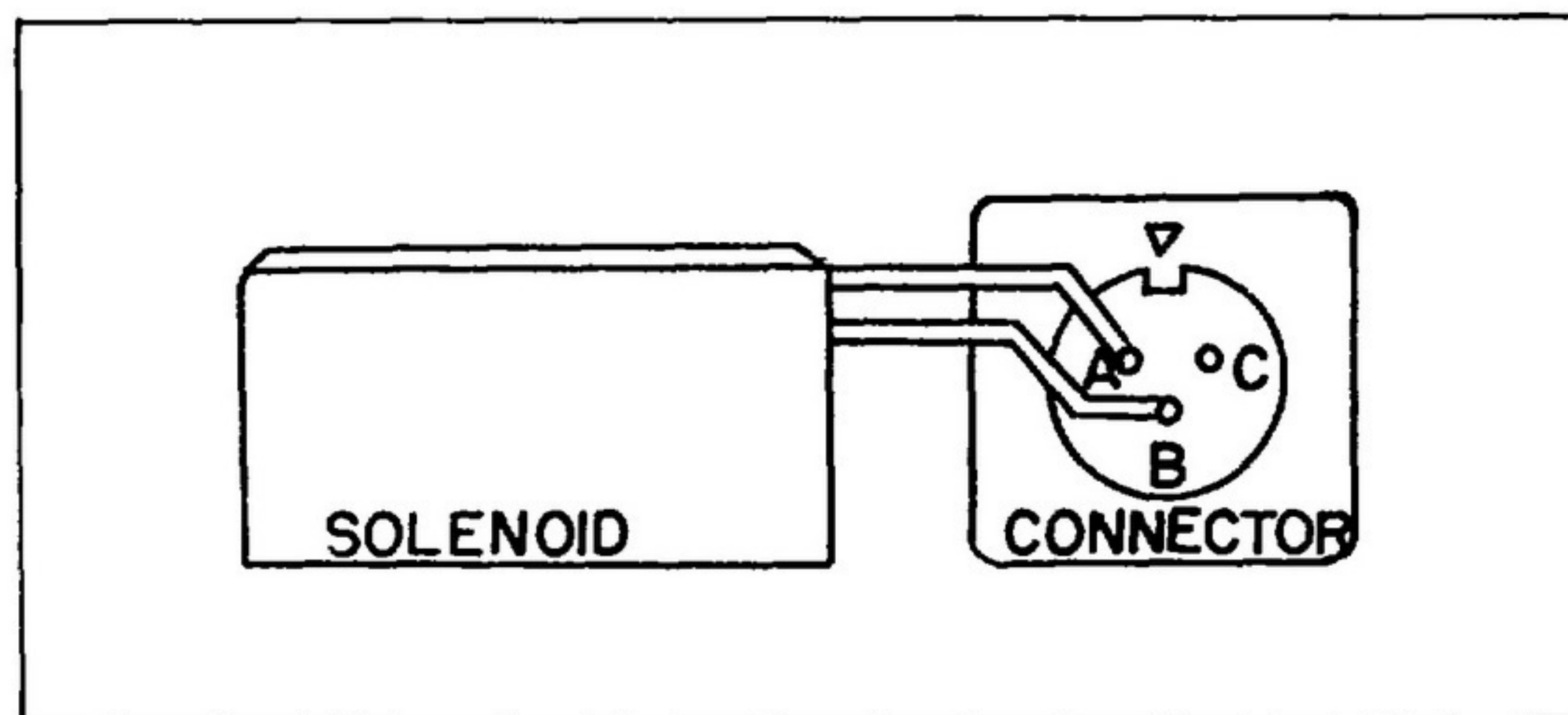
- (1) Place gasket (31) in body (141). Place retainer (28) through body (141) and secure with nut (29) and washer (30).
- (2) Place spring (24) in retainer (28). Place gasket (27) on rod (26) and place rod (26) through bottom of retainer (28).
- (3) Place push button (22) into top of retainer (28) and secure push button (22) to rod (26) with setscrew (23).
- (4) Thread one nut (25) on rod (26). Place end of lever (32) on rod (26) and secure to rod (26) with other nut (25).
- (5) Secure other end of lever (32) to solenoid assembly (40) by removing retaining ring on solenoid assembly, placing end of lever over pin of solenoid assembly and replacing the retaining ring.

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- AD. Place guide assembly (19) through hole in body (141) and pin in place with pin (21). Secure the guide assembly to body (141) with nut (12) and washers (13 and 14).
- AE. Place spring (20) in guide assembly (19). Place gasket (18) on slide (17) and place the slide in guide assembly (19). Place push button (10) in guide assembly (19) and secure the push button to the slide with pin (11).
- AF. Secure lever (15) to guide assembly (19) with pin (16).
- AG. Check operation of the partially assembled valve (refer to paragraph 2, step C (4) and (5)).

NOTE: Slight adjustment of sear plate (81) may be required to obtain a perfect latch. Loosen screws (83) and slide the sear plate into its proper location. Tighten screws (83) and drill a hole, if required, for pin (85) in cocking lever (88). Install pin (85) and secure screws (83) with lockwire (82).

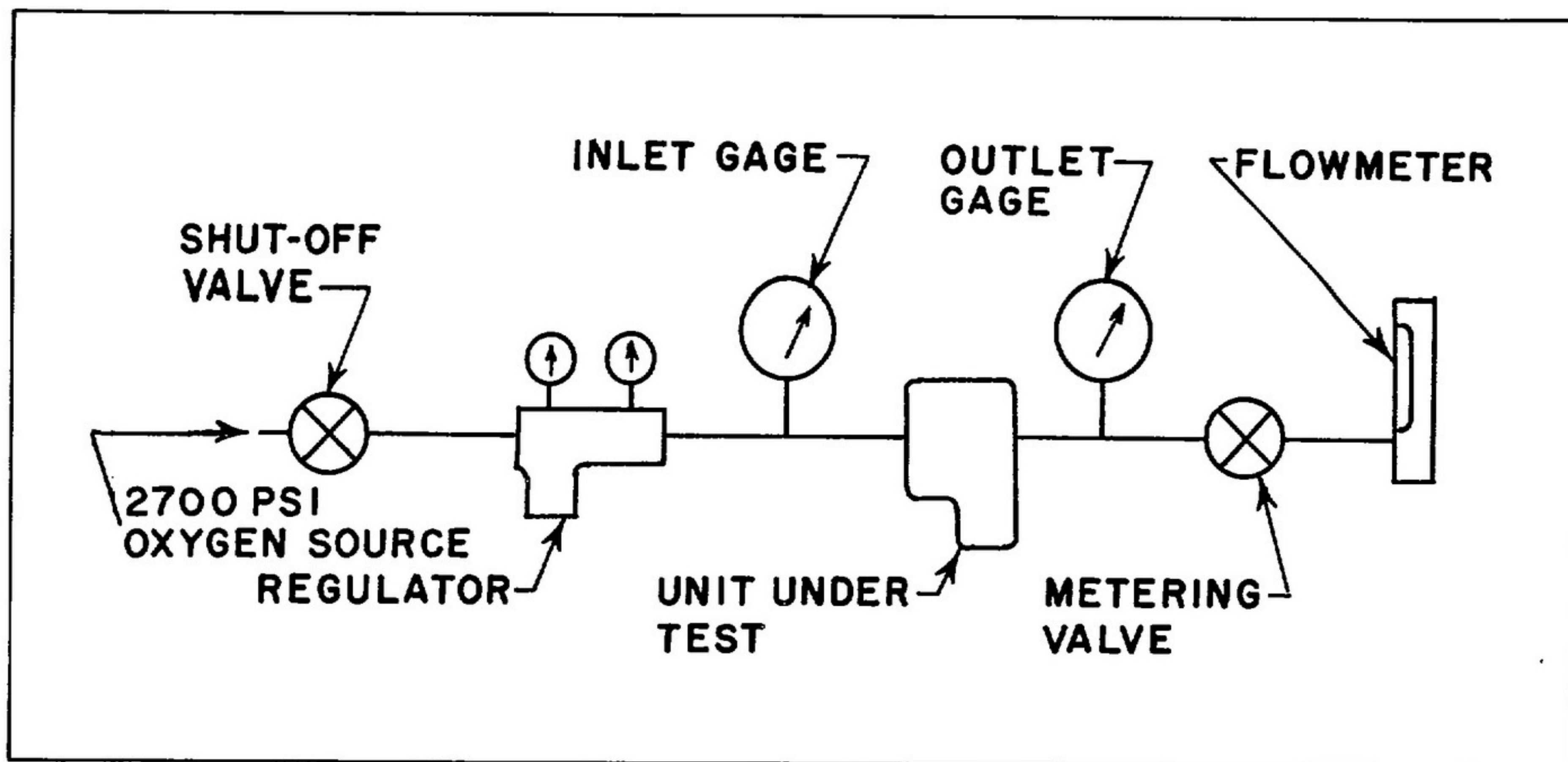
- AH. Place tubing (38 and 39) on electrical leads of solenoid assembly (40). Solder the leads to pins A and B of connector (33). (See figure 10).



Solenoid Lead Location
Figure 10

- AI. Prior to assembly of remaining items (4 through 9, figure 18) test the partially assembled valve assembly in accordance with the test setup illustrated in figure 11 and the following procedure.

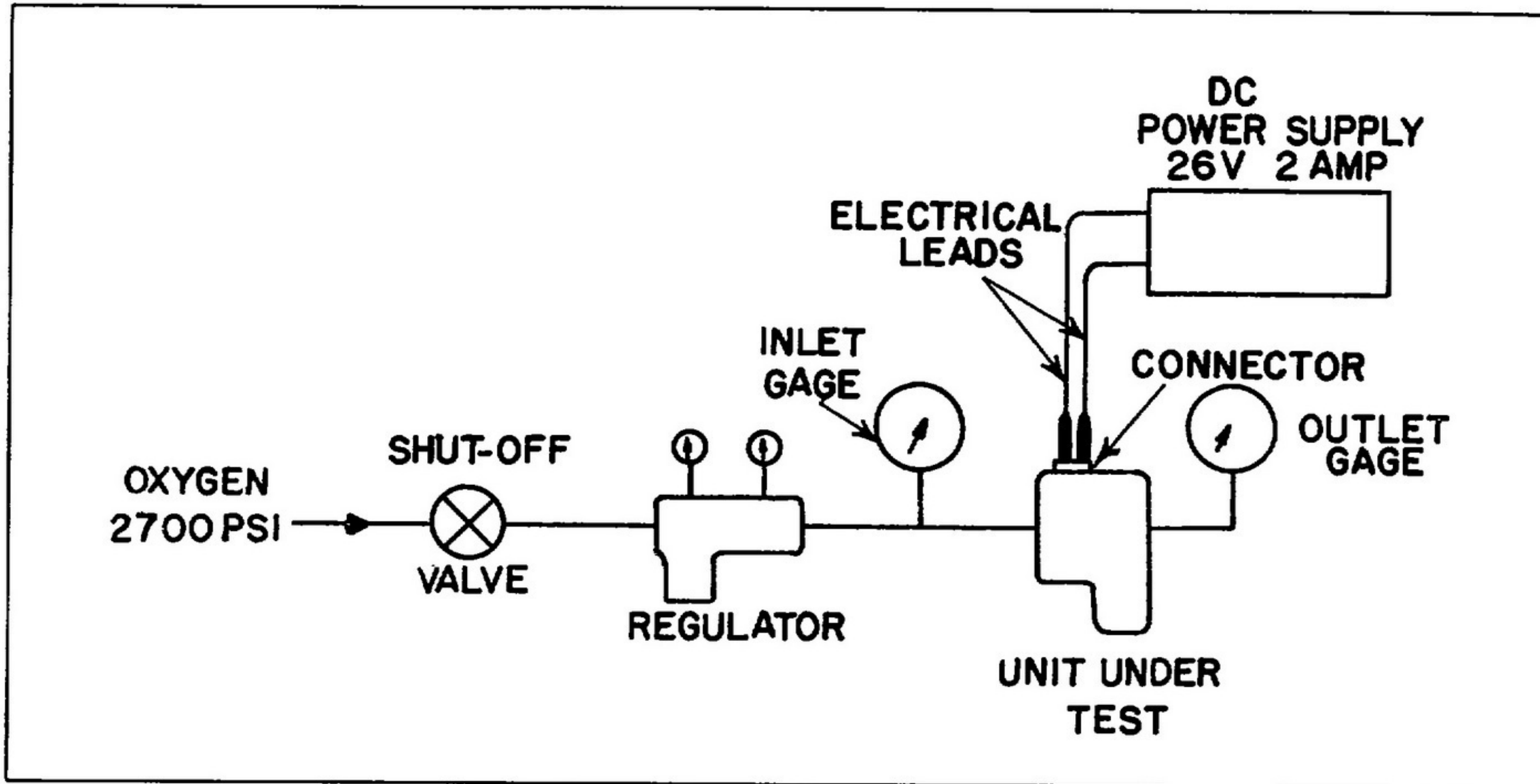
- (1) Close the valve assembly, the shut-off valve, and the metering valve.



Flow Test Setup
Figure 11

- (2) Open the valve assembly by tripping the leaf spring on solenoid assembly (40, figure 18).
- (3) Slowly open the shut-off valve and the metering valve.
- (4) Adjust the regulator for an indication of 100 psi on the inlet pressure gage.
- (5) With a minimum of 80 psi on the outlet pressure gage, the flowmeter should indicate a minimum of 600 liters per minute. If indication is below 600 liters per minute, check that valve is completely opened (refer to step M (1) (a) and (b)).
- (6) On valve 11600-5, after completion of steps (1) through (5), adjust the regulator for 16 psi on the inlet pressure gage. The flowmeter should indicate a minimum of 100 liters per minute as indicated on the flowmeter.
- (7) After completion of test, close shut-off valve, close metering valve, remove the unit under test from test setup, and continue testing.

AJ. Perform a solenoid trip test of the partially assembled by-pass oxygen valve in accordance with the test setup illustrated in figure 12 and the following procedure.



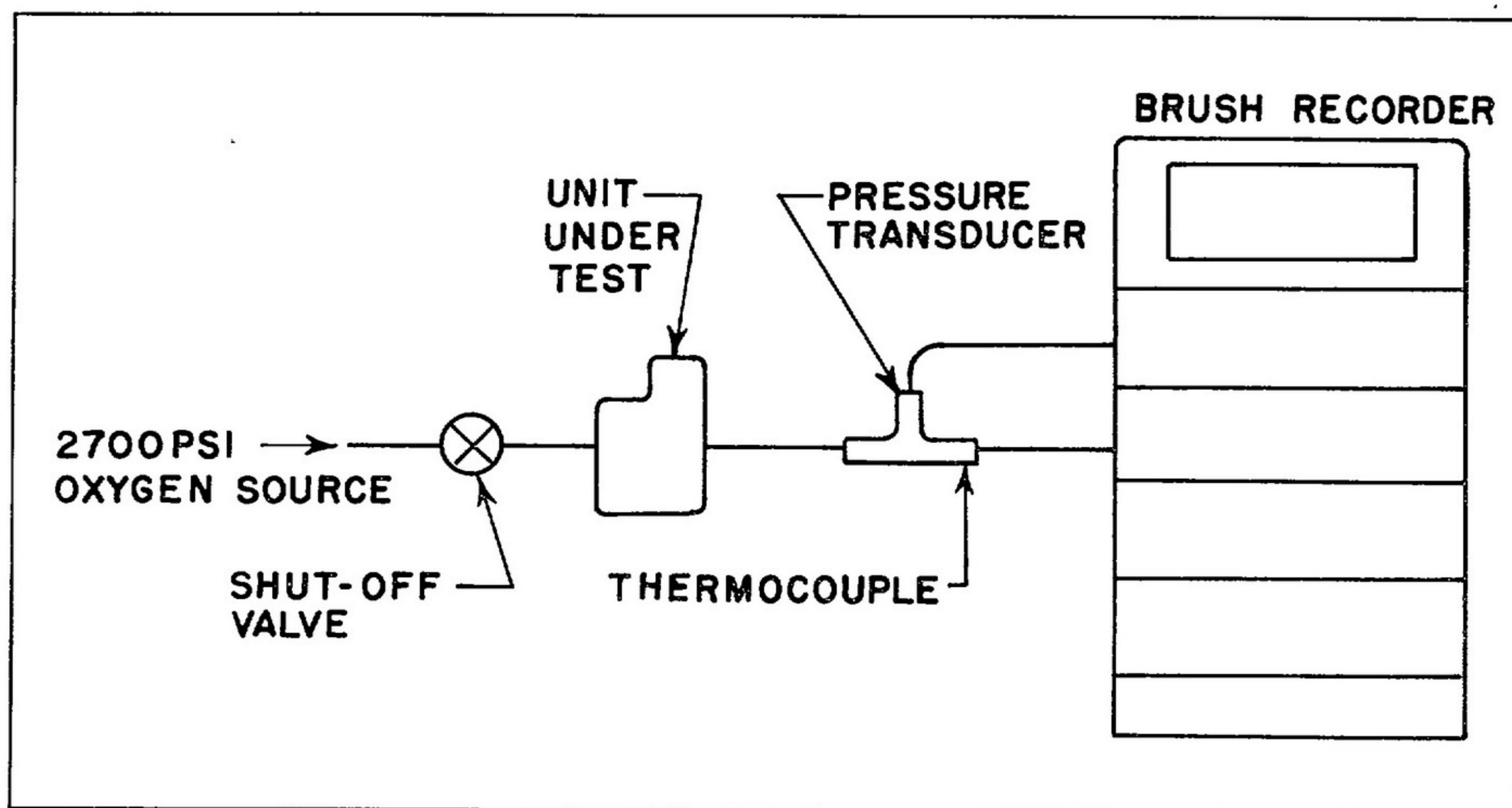
Solenoid Trip Test Setup
 Figure 12

- (1) Close the valve assembly and the shut-off valve.
- (2) Slowly open the shut-off valve and adjust regulator for 100 psi as indicated on inlet gage.
- (3) Touch the probes of D.C. power supply to pins A and B of the connector. The solenoid should trip, opening the valve assembly.
- (4) Remove probes of D.C. power supply and close shut-off valve.
- (5) Attempt to manually close the valve without depressing the "RESET" button. The valve should not stay closed when the handle is released. Check whether the valve is closed by applying pressure to the inlet and observing the outlet gage for flow.
- (6) Depress the "RESET" button and again attempt to close the valve. The valve should now stay closed when the handle is released. Check whether the valve

is closed by applying pressure to the inlet and observing the outlet gage for flow.

- (7) Repeat steps (1) through (6) using 2700 psi in place of 100 psi.
- (8) After completion of test close all valves, remove unit under test from test setup, and continue testing.

AK. Perform a pressure and temperature rise test of the partially assembled by-pass oxygen valve in accordance with the test setup illustrated in figure 13 and the following procedure.



Pressure and Temperature Rise Test Setup
 Figure 13

- (1) Close shut-off valve and unit under test and calibrate Brush recorder for temperature and pressure.
- (2) Slowly open the shut-off valve.
- (3) Trip the leaf spring of solenoid assembly (40, figure 18) and start the recorder at the same time.
- (4) Pressure build-up from 0 to 1850 psi should not take less than 0.3 seconds and total opening time should

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not exceed 3 seconds (check by stop watch). Temperature build-up should not exceed 125°F above ambient.

NOTE: The figures given above are for ambient room temperature (72°F). The recorder chart shows temperature rise on one track and pressure on another.

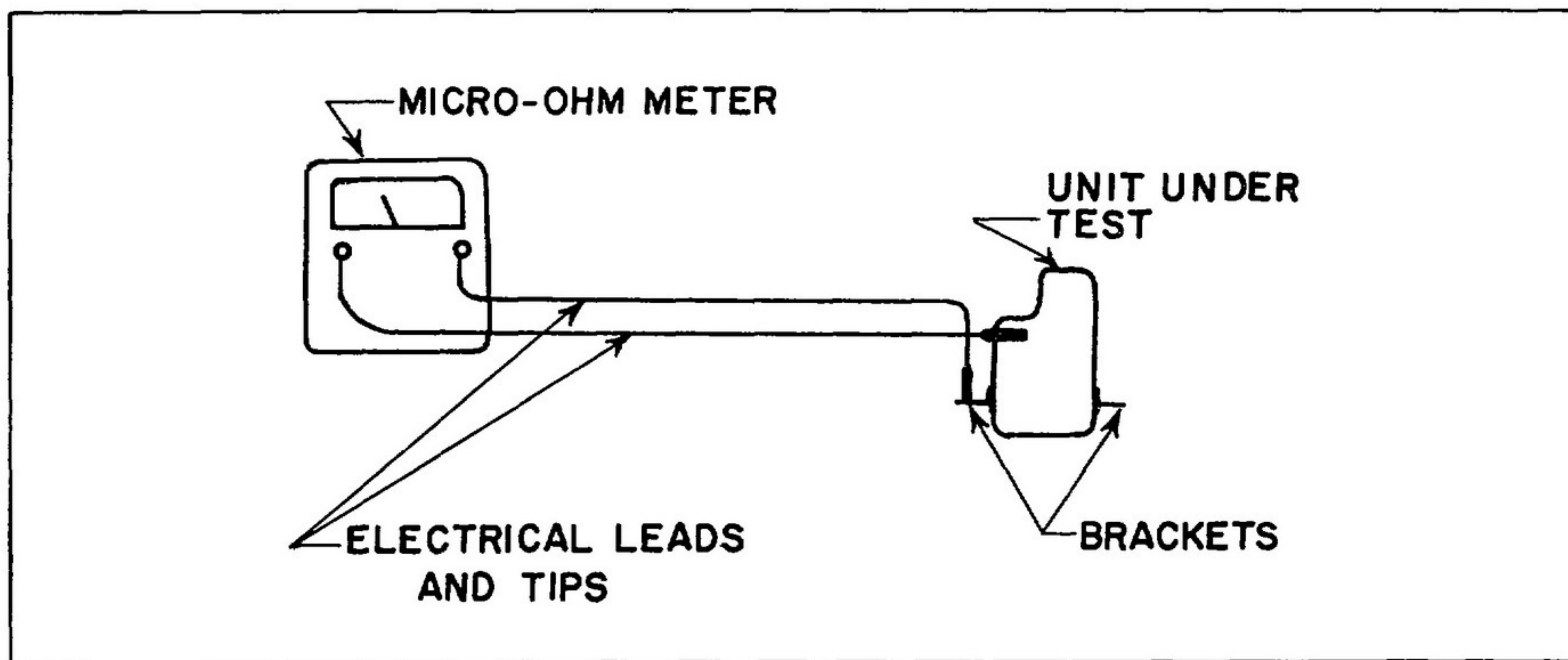
- (5) After completion of test, close shut-off valve, remove the unit under test from test setup, and complete assembly.

AL. Secure covers (4 and 5, figure 18) to body (141) with screws (8), and washers (9).

AM. Test the completely assembled valve assembly in accordance with paragraph 9.

9. Testing

- A. Perform a bonding check of the assembled by-pass oxygen valve in accordance with the test setup illustrated in figure 14 and the following procedure.

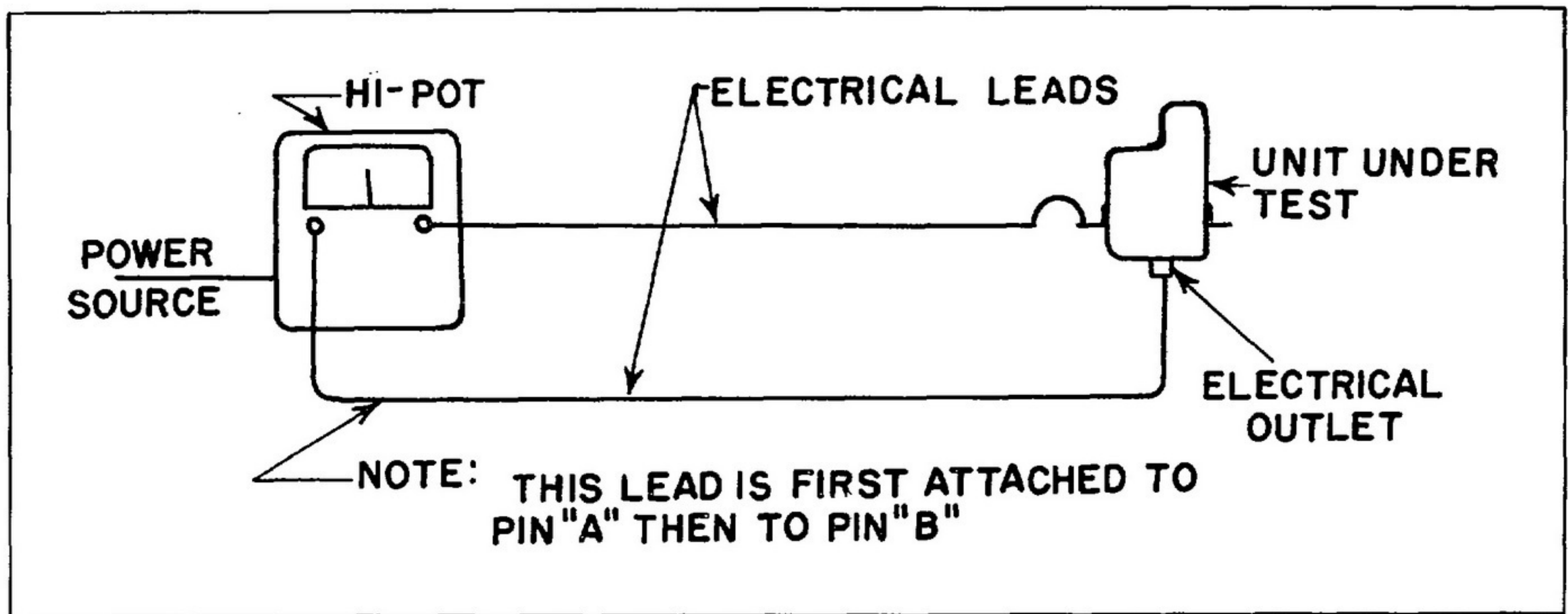


Bonding Test Setup
Figure 14

- (1) Place one meter prong into hole in case mounting bracket and the other on cover. (4 or 5, figure 18).

- (2) Indication on meter should not exceed 0.005 ohm.
- (3) Repeat steps (1) and (2) with meter prong on other cover.
- (4) Repeat steps (1) and (2) with meter prong on connector (33) instead of covers (4 or 5).
- (5) After completion of test, remove unit from test setup, and continue testing.

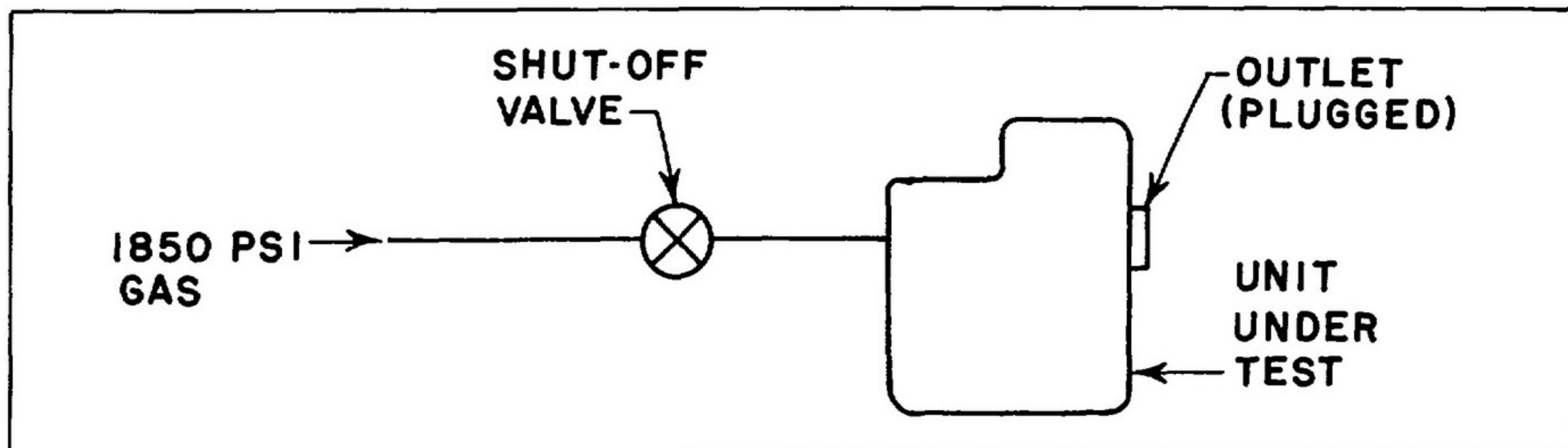
B. Perform a dielectric test of the assembled by-pass oxygen valve in accordance with the test setup illustrated in figure 15 and the following procedure.



Dielectric Test Setup
Figure 15

- (1) Apply 1000 volts RMS commercial frequency between the terminals and case for a period of one minute. No breakdown shall be evident.
 - (2) After completion of test, remove unit from test setup, and complete testing.
- C. Perform an overall leakage check of the assembled by-pass oxygen valve in accordance with the test setup illustrated in figure 16 and the following procedure.
- (1) Plug valve outlet port and open the by-pass oxygen valve.

CAUTION: DO NOT OPEN BY-PASS OXYGEN VALVE AFTER
INLET PRESSURE IS APPLIED TO INLET PORT.



Overall Leakage Test Setup
Figure 16

- (2) Apply 1850 psi gas to inlet port by slowly opening shut-off valve.

NOTE: Gas to consist of 20% freon 13 by volume and 80% by volume clean dry breathing air or nitrogen.

- (3) Remove plug (128, figure 18).
- (4) Using a General Electric Co., Type H Leak Detector, or an equivalent, examine entire valve for signs of freon leakage. Specifically examine inlet and outlet connectors (96) and plug (128) opening.

NOTE: The leak detector should be adjusted to its medium range position.

- (5) A deflection of greater than 10% of full scale on the detector indicating meter will be cause for rejection. Replace defective parts or tighten connectors as necessary to meet the requirements of this test.
- (6) At completion of test, close shut-off valve, remove valve from test setup, and purge the entire valve, inside and out, with pure oxygen. All traces of freon, must be removed prior to use. Insert plug (128).

D. Lockwire covers (4 and 5) using lockwire (7), and seal (6), and apply Glyptol 1201 to plug (128) after assembly.

10. Trouble Shooting

A. See figure 17 for trouble shooting chart.

TROUBLE	PROBABLE CAUSE	REMEDY
Leakage at outlet port of valve when valve is closed.	Valve not completely closed.	Adjust valve stem adjusting bushing (98, figure 18) per paragraph 8, step M (1), (a) and (b).
Leakage at connectors (96, figure 18).	Loose connectors.	Torque connector (s) as required. (Refer to Table I).
Valve fails to open when electrically actuated.	Faulty connector (33, figure 18).	Replace connector
	Faulty solenoid assy.	Replace solenoid assembly.
Valve opens too rapidly	Faulty damper assy (43).	Replace the damper assembly.
Leakage at valve stem assembly (117).	Faulty preformed packing (115).	Replace pre-formed packing.
	Scored or damaged valve stem assembly (117).	Replace valve stem assembly
Unable to manually close valve.	Valve not reset before attempting to close.	Reset valve by depressing reset push button (22).
	Sear plate (81) requires adjustment.	Adjust sear plate per "NOTE" following step AG of paragraph 8.

Figure 17. Trouble Shooting Chart

11. Storage Instructions

- A. Cap electrical connector and inlet and outlet connectors with protective closures.
- B. Wrap the by-pass oxygen valve to prevent dust from entering. Do not use any preservative coatings on the valve assembly.

12. Special Tools

- A. No special tools are required to overhaul the by-pass oxygen valve.

13. Illustrated Parts List

- A. This Illustrated Parts List lists and describes the parts for by-pass oxygen valve 11600-1, 11600-3 and 11600-5.
 - (1) The Group Assembly Parts List consists of a parts listing and a completely indexed drawing. The by-pass oxygen valve is followed immediately by its component parts, properly indented thereunder, to show their relationship to the assembly.
 - (2) The quantities listed in the "UNITS PER ASSY" column are, in the case of assemblies, the total quantity used per valve assembly at the location indicated, while the component parts indented under the assemblies are the quantity used per assembly. The quantities specified, therefore, are not necessarily the total used per valve assembly. Refer to the Numerical Index for the total quantities used per By-Pass Oxygen valve.
 - (3) The part numbers listed in the "PART NUMBER" column are Scott Aviation Corporation part numbers except standard parts, which are listed by "MS" and "AN" part numbers, and vendor items, which are listed by vendor part numbers. Commercial hardware available at commercial sources is identified by the abbreviation "COML" in the "PART NUMBER" column.
 - (4) When the length of a part is to be selected as required the abbreviation "AR" will appear in the "UNITS PER ASSY" column.

- (5) A six place code, following the description of a part, indicates the manufacturer of that part. Standard parts and parts carried under Scott part numbers have no vendors' code. The following list contains the codes, and names and addresses of manufacturers supplying items or articles for the valve assembly.

VENDORS' CODE

CODE	NAME AND ADDRESS
V00287	Connecticut Engineering and Mfg. Co. Danielson, Connecticut
V01139	General Electric Co. Silicone Products Department Waterford, New York
V03530	American Gas and Chemicals Inc. New York, New York
V04633	Minnesota Mining and Mfg. Co. Adhesives, Coating and Sealers Div. Los Angeles, California
V72962	Elastic Stop Nut Corp. of America Union, New Jersey
V73287	M. D. Hubbard Spring Company Pontiac, Michigan
V79136	Waldes Kohinoor, Incorporated Long Island City, New York

Parts used on only one part number valve are indicated by a letter symbol immediately following the description of a part in the "USAGE CODE" column. An explanation of the letter symbols used is outlined below. In cases when the "USAGE CODE" column has been left blank, parts listed are common to all by-pass oxygen valves.

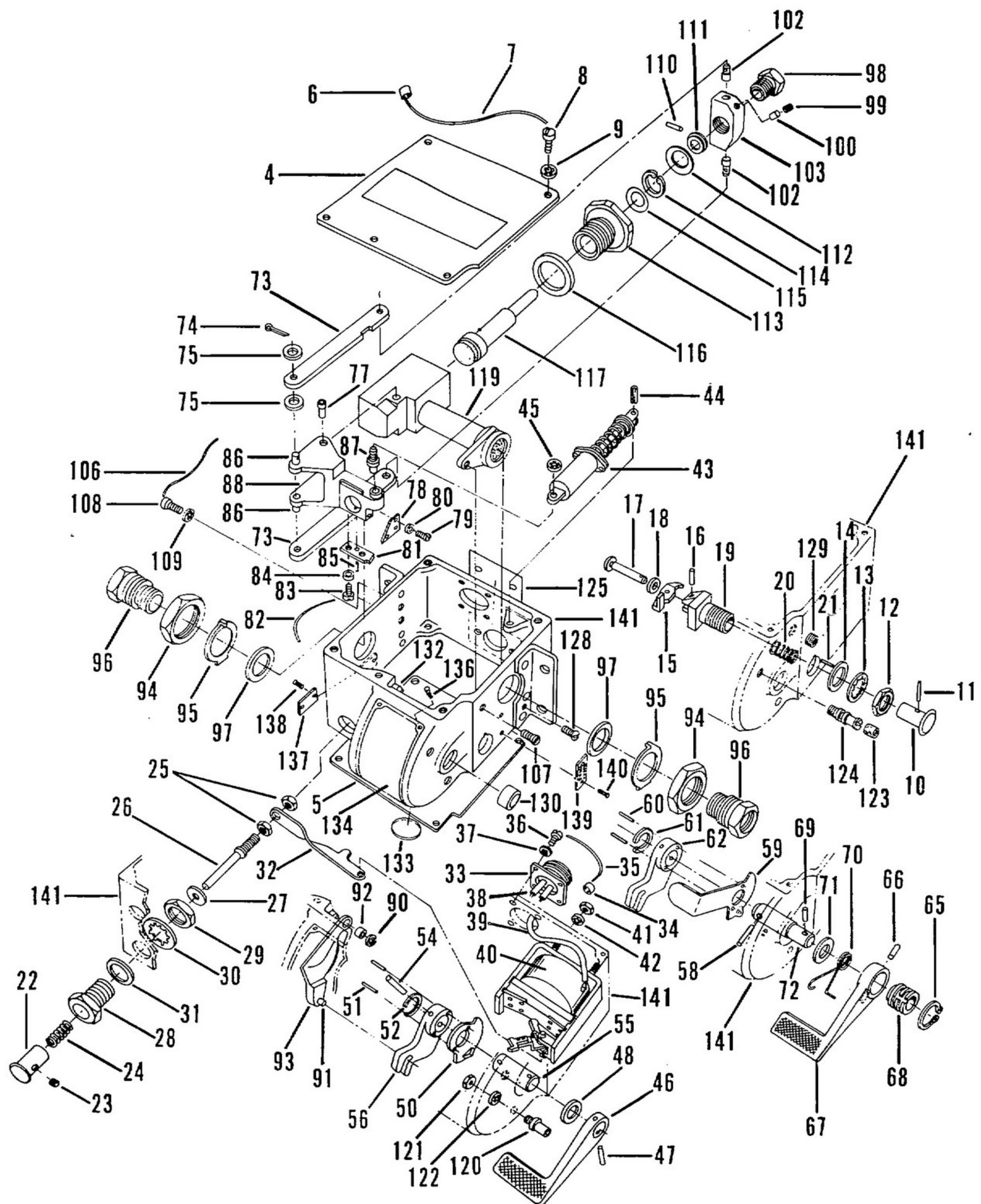
PART NUMBER	USAGE CODE
11600-1	A
11600-3	B
11600-5	C

- (6) A Numerical Index has been provided at the conclusion of the Group Assembly Parts List. Alpha-numeric arrangement of part numbers has been assigned in accordance with Specification MIL-B-5005.

B. How to use this Illustrated Parts List

- (1) If neither the part number nor the nomenclature is known, the part can be found by comparison with the exploded view illustration. When located on the illustration, the index number will refer to the line in the Group Assembly Parts List with the part number and the nomenclature.
- (2) When the part number is known, refer to the Numerical Index and find the part number. Opposite the part number is the figure and index number which refers to the Group Assembly Parts List. Proper nomenclature is opposite the index number on the Group Assembly Parts List page.

11600 SERIES OVERHAUL MANUAL



By-Pass Oxygen Valve
Figure 18

SCOTT 225 ERIE STREET
LANCASTER, NEW YORK 14086
TEL.: 716 683-5100
AVIATION TELEEX: 091-394
11600 SERIES
OVERHAUL MANUAL

FIG.	ITEM	PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	EFFECT CODE	UNITS PER ASSY	
18	-1	11600-1	OXYGEN VALVE-BY-PASS	A	1	
	-2	11600-3	OXYGEN VALVE-BY-PASS	B	1	
	-3	11600-5	OXYGEN VALVE-BY-PASS	C	1	
	4	11602	. COVER - NAMEPLATE		1	
	5	11606	. COVER - BOTTOM (ATTACHING PARTS)		1	
	6	2808	. SEAL - LOCKWIRE		2	
	7	MS20995C20	. LOCKWIRE		AR	R
	8	AN500A4-3	. SCREW		10	
	9	AN936A4	. WASHER		10	
			-----*-----			
	10	23182-1	. PUSH BUTTON - PRESS TO OPEN (ATTACHING PARTS)	B	1	
	11	031-0187MCP	. PIN (V00287)	B	1	
			-----*-----			
	12	AN316C6R	. NUT	B	1	
	13	AN936A616	. WASHER	B	1	
	14	AN960-616L	. WASHER	B	1	
	15	23152	. LEVER (ATTACHING PARTS)	B	1	
	16	79-012-062- 0250	. PIN - SPRING (V72962)	B	1	
			-----*-----			
	17	23153	. SLIDE	B	1	
	18	2827-6	. GASKET	B	1	
	19	23151-1	. GUIDE ASSEMBLY	B	1	
	20	10583	. SPRING	B	1	
	21	094-0250MBS	. PIN - SPIROL (V00287)	B	1	
	22	10585	. PUSHBUTTON (ATTACHING PARTS)		1	
	23	AN565A2H1	. SETSCREW		1	
			-----*-----			
	24	10583	. SPRING		1	
	25	68NTM-40	. NUT		2	R
	26	10582	. PUSH ROD		1	
	27	10591	. GASKET		1	
	28	10581	. RETAINER (ATTACHING PARTS)		1	
	29	AN316C6R	. NUT		1	

- ITEM NOT ILLUSTRATED



225 ERIE STREET
LANCASTER, NEW YORK 14086
TEL. 716 683-5100
TELEX 091-394

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FIG.	ITEM	PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	EFFECT CODE	UNITS PER ASSY	
18	30	AN936A616	. WASHER -----*		1	
	31	10590	. GASKET		1	
	32	10586	. LEVER		1	
	33	AN3102E- 10SL-3P	. RECEPTACLE (ATTACHING PARTS)		1	
	34	2808	. SEAL-LOCKWIRE		1	
	35	MS20995C20	. LOCKWIRE		AR	R
	36	AN500A4-4	. SCREW		4	
	37	AN936A4	. WASHER -----*		4	
	38	13576-1	. TUBING-PLASTIC		2	
	39	13576-3	. TUBING-PLASTIC		1	
	40	11604	. SOLENOID ASSEMBLY (ATTACHING PARTS)		1	
	41	COML	. NUT-PLAIN, HEXAGON, 4-40 NC-2A (SUPPLIED WITH ITEM 40)		2	
	42	AN936A4	. WASHER (SUPPLIED WITH ITEM 40) -----*		2	
	43	10563	. DAMPER ASSEMBLY (ATTACHING PARTS)		1	
	44	MS171493	. PIN		1	
	45	5133-12MF	. RING-RETAINING (V79136) -----*		1	
	46	10534	. LEVER-HAND (ATTACHING PARTS)	AC	1	
	47	MS171497	. PIN -----*	AC	1	
	48	10579	. WASHER	AC	1	
	-49	10548	. CRANK ASSEMBLY - CONTROL	AC	1	
	50	10546	. . CAM - SEARING (ATTACHING PARTS)	AC	1	
	51	10549	. . PIN - LOCATING -----*	AC	2	
	52	10569	. . WASHER - DETENT	AC	1	
	-53	10567	. . CRANK SUBASSEMBLY - CONTROL	AC	1	
	54	MS171495	. . . PIN	AC	1	

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FIG.	ITEM	PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	EFFECT CODE	UNITS PER ASSY
18	55	10547	. . . SHAFT	AC	1
	56	10545	. . . CONTROL CRANK	AC	1
	-57	23196-1	. CRANK ASSEMBLY - CONTROL (ATTACHING PARTS)	B	1
	58	094-0500MBS	. PIN-SPIROL (V00287) -----*-----	B	1
	59	23189-1	. . INDICATOR (ATTACHING PARTS)	B	1
	60	10549	. . PIN - LOCATING -----*-----	B	2
	61	10569	. . WASHER-DETENT	B	1
	62	10545-3	. . CRANK-CONTROL	B	1
	-63	23197-3	. LEVER AND SHAFT ASSEMBLY	B	1
	-64	23192-1	. . LEVER ASSEMBLY - HAND (ATTACHING PARTS)	B	1
	65	5100-43-W	. . RING-RETAINING (V79136) -----*-----	B	1
	66	094-0250MBS	. . . PIN-SPIROL (V00287)	B	1
	67	23192-3	. . . LEVER-HAND	B	1
	68	23188-1	. . SLEEVE (ATTACHING PARTS)	B	1
	69	MS16555-4	. . PIN -----*-----	B	1
	70	23194-1	. . SPRING	B	1
	71	23185-1	. . WASHER	B	1
	72	23195-1	. . SHAFT	B	1
	73	10532	. LINK-TRUNNION (ATTACHING PARTS)		2
	74	MS24665-20	. PIN		4
	75	10374	. WASHER -----*-----		8
	-76	10370	. LEVER ASSEMBLY - COCKING (ATTACHING PARTS)		1
	77	10571	. PIN - VALVE TO COCKING LEVER -----*-----		2

- ITEM NOT ILLUSTRATED

FIG.	ITEM	PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	EFFECT CODE	UNITS PER ASSY	
18	78	10568	. . SPRING-DETENT (ATTACHING PARTS)		1	
	79	MS35233-1	. . SCREW		2	
	80	AN935-2L	. . WASHER		2	
			-----*-----			
	81	10529	. . SEAR PLATE (ATTACHING PARTS)		1	
	82	MS20995C20	. . LOCKWIRE		AR	R
	83	AN500AC4-4	. . SCREW		2	
	84	AN935-4L	. . WASHER		2	
	85	MS171432	. . PIN		1	
			-----*-----			
	86	10530	. . PIN-FIRING SPRING		1	
	87	10368	. . PIN-LINK		2	
	88	10528	. . COCKING LEVER		1	
	-89	10551	. LINK ASSEMBLY - BUMPER (SB-35-21) (ATTACHING PARTS)		1	
	90	5133-12MF	. RING-RETAINING (V79136)		1	
			-----*-----			
	91	10570	. . PIN-BUMPER LINK		1	
	92	10556	. . SLEEVE BUMPER LINK		1	
	93	10538	. . LINK-BUMPER		1	
	94	10363	. NUT - CONNECTOR		2	
	95	10576	. WASHER - LOCK		2	
	96	10355	. CONNECTOR		2	
	97	10553-2	. WASHER		2	
	98	10574	. BUSHING - VALVE STEM ADJUSTMENT (ATTACHING PARTS)		1	
	99	AN565F4H3	. SETSCREW		1	
	100	10573	. PLUG - NYLON		1	
			-----*-----			
	-101	10369	. TRUNNION ASSEMBLY		1	
	102	10368-1	. . PIN - LINK		2	
	103	10572	. . TRUNNION		1	
	-104	10513-5	. VALVE ASSEMBLY-AL- TITUDE TRIGGERED	AB	1	
	-105	10513-7	. VALVE ASSEMBLY-AL- TITUDE TRIGGERED (ATTACHING PARTS)	C	1	
	106	MS20995C20	. LOCKWIRE		AR	

- ITEM NOT ILLUSTRATED

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LANCASTER, NEW YORK 14086
TEL 716 683-5100
AVIATION TELETYPE UNIT
11600 SERIES
OVERHAUL MANUAL

FIG.	ITEM	PART NUMBER	NOMENCLATURE 1 2 3 4 5 6 7	EFFECT CODE	UNITS PER ASSY
18	107	AN505-4-6	. SCREW		1
	108	AN500A8-7	. SCREW		2
	109	AN936A8	. WASHER		2
			-----*-----		
	110	79-012-062-0437	. . PIN-ROLL	C	1
	111	23553-1	. . WASHER-STEP	C	1
	112	BOWHF317	. . WASHER-BOWED (V73287)	C	1
	113	10515	. . CAP VALVE		1
	114	MS28782-5	. . RETAINER		1
	115	2800C10C	. . PACKING-PREFORMED		1
	116	10553-1	. . WASHER		1
	117	10516	. . VALVE STEM ASSEMBLY	AB	1
	-118	10516-1	. . VALVE STEM ASSEMBLY	C	1
	119	10514-5	. . VALVE BODY		1
	120	10555	. STOP LEVER (ATTACHING PARTS)	AC	1
	121	AN340C6	. NUT	AC	1
	122	AN936A6	. WASHER	AC	1
			-----*-----		
	123	23186-1	. CUSHION (ATTACHING PARTS)	B	1
	124	23191-1	. PIN-STOP	B	1
			-----*-----		
	125	COML	. LABEL-PRESSURE SENSITIVE (STOCK NO. 7800 2 MIL ALUMINUM) (VO4633)	AC	1
	-126	11605-1	. BODY ASSEMBLY-AUTO- MATIC VALVE	AC	1
	-127	11605-3	. BODY ASSEMBLY-AUTO- MATIC VALVE	B	1
	128	AN530C6-4	. . SCREW		2
	129	AN932-1	. . PLUG		1
	130	10541	. . BUSHING	AC	1
	-131	23193-3	. . BUSHING	B	1
	132	10542	. . PIN-BUMPER LINK		1
	133	23184-1	. . WINDOW	B	1
	134	10552	. . PLATE-INSTRUCTION	AC	1
	-135	23187-1	. . PLATE-INSTRUCTION	B	1

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FIG.	ITEM	PART NUMBER	NOMENCLATURE	EFFECT CODE	UNITS PER ASSY
			1 2 3 4 5 6 7		
18	136	AN535-00-2	(ATTACHING PARTS) . . SCREW -----*-----		4
	137	10554	. . PLATE-IDENTIFI- CATION		1
	138	AN535-00-2	(ATTACHING PARTS) . . SCREW -----*-----		2
	139	23183-1	. . PLATE-INSTRUCTION (ATTACHING PARTS)	B	1
	140	AN535-00-2	. . SCREW -----*-----	B	2
	141	11601	. . BODY-AUTOMATIC VALVE (SB-35-22)	AC	1
	-142	11601-1	. . BODY-AUTOMATIC VALVE (SB-35-22)	B	1

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SOOT 225 ERIE STREET
LANCASTER, NEW YORK 14086
TEL: 716 683-5100
AVIATION TELEX 1091394
11600 SERIES
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PART NUMBER	AIRLINE PART NO.	CH-SECT-UNIT-FIG-ITEM	TTL REQ
AN3102E-10SL-3P		35 - 20 - 116 - 18 33	1
AN316C6R		35 - 20 - 116 - 18 12	2
AN340C6		35 - 20 - 116 - 18 121	1
AN500AC4-4		35 - 20 - 116 - 18 83	2
AN500A4-3		35 - 20 - 116 - 18 8	10
AN500A4-4		35 - 20 - 116 - 18 36	4
AN500A8-7		35 - 20 - 116 - 18 108	2
AN505-4-6		35 - 20 - 116 - 18 107	1
AN530C6-4		35 - 20 - 116 - 18 128	2
AN535-00-2		35 - 20 - 116 - 18 136	8
AN565A2H1		35 - 20 - 116 - 18 23	1
AN565F4H3		35 - 20 - 116 - 18 99	1
AN932-1		35 - 20 - 116 - 18 129	1
AN935-2L		35 - 20 - 116 - 18 80	2
AN935-4L		35 - 20 - 116 - 18 84	2
AN936A4		35 - 20 - 116 - 18 9	14
AN936A6		35 - 20 - 116 - 18 122	1
AN936A616		35 - 20 - 116 - 18 13	2
AN936A8		35 - 20 - 116 - 18 109	2
AN960-616L		35 - 20 - 116 - 18 14	1
BOWHF317		35 - 20 - 116 - 18 112	1
LABEL		35 - 20 - 116 - 18 125	1
MS16555-4		35 - 20 - 116 - 18 69	1
MS171432		35 - 20 - 116 - 18 85	1
MS171493		35 - 20 - 116 - 18 44	1
MS171495		35 - 20 - 116 - 18 54	1
MS171497		35 - 20 - 116 - 18 47	1
MS20995C20		35 - 20 - 116 - 18 7	AR
MS24665-20		35 - 20 - 116 - 18 74	4
MS28782-5		35 - 20 - 116 - 18 114	1
MS35233-1		35 - 20 - 116 - 18 79	2
NUT		35 - 20 - 116 - 18 41	2
031-0187MCP		35 - 20 - 116 - 18 11	1
094-0250MBS		35 - 20 - 116 - 18 21	2
		35 - 20 - 116 - 18 66	
094-500MBS		35 - 20 - 116 - 18 58	1
10355		35 - 20 - 116 - 18 96	2
10363		35 - 20 - 116 - 18 94	2
10368		35 - 20 - 116 - 18 87	2
10368-1		35 - 20 - 116 - 18 102	2
10369		35 - 20 - 116 - 18-101	1
10370		35 - 20 - 116 - 18 -76	1



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PART NUMBER	AIRLINE PART NO.	CH-SECT-UNIT-FIG-ITEM	TTL REQ
10374		35 - 20 - 116 - 18 75	8
10513-5		35 - 20 - 116 - 18-104	1
10513-7		35 - 20 - 116 - 18-105	1
10514-5		35 - 20 - 116 - 18 119	1
10515		35 - 20 - 116 - 18 113	1
10516		35 - 20 - 116 - 18 117	1
10516-1		35 - 20 - 116 - 18-118	1
10528		35 - 20 - 116 - 18 88	1
10529		35 - 20 - 116 - 18 81	1
10530		35 - 20 - 116 - 18 86	1
10532		35 - 20 - 116 - 18 73	2
10534		35 - 20 - 116 - 18 46	1
10538		35 - 20 - 116 - 18 93	1
10541		35 - 20 - 116 - 18 130	1
10542		35 - 20 - 116 - 18 132	1
10545		35 - 20 - 116 - 18 56	1
10545-3		35 - 20 - 116 - 18 62	1
10546		35 - 20 - 116 - 18 50	1
10547		35 - 20 - 116 - 18 55	1
10548		35 - 20 - 116 - 18 -49	1
10549		35 - 20 - 116 - 18 51	2
		35 - 20 - 116 - 18 60	
10551		35 - 20 - 116 - 18 -89	1
10552		35 - 20 - 116 - 18 134	1
10553-1		35 - 20 - 116 - 18 116	1
10553-2		35 - 20 - 116 - 18 97	2
10554		35 - 20 - 116 - 18 137	1
10555		35 - 20 - 116 - 18 120	1
10556		35 - 20 - 116 - 18 92	1
10563		35 - 20 - 116 - 18 43	1
10567		35 - 20 - 116 - 18 -53	1
10368		35 - 20 - 116 - 18 78	1
10569		35 - 20 - 116 - 18 52	1
		35 - 20 - 116 - 18 61	
10570		35 - 20 - 116 - 18 91	1
10571		35 - 20 - 116 - 18 77	2
10572		35 - 20 - 116 - 18 103	1
10573		35 - 20 - 116 - 18 100	1
10574		35 - 20 - 116 - 18 98	1
10576		35 - 20 - 116 - 18 95	2
10579		35 - 20 - 116 - 18 48	1
10581		35 - 20 - 116 - 18 28	1
10582		35 - 20 - 116 - 18 26	1

**11600 SERIES
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PART NUMBER	AIRLINE PART NO.	CH-SECT-UNIT-FIG-ITEM	TTL REQ
10583		35 - 20 - 116 - 18 20	2
		35 - 20 - 116 - 18 24	
10585		35 - 20 - 116 - 18 22	1
10586		35 - 20 - 116 - 18 32	1
10590		35 - 20 - 116 - 18 31	1
10591		35 - 20 - 116 - 18 27	1
11600-1		35 - 20 - 116 - 18 -1	1
11600-3		35 - 20 - 116 - 18 -2	1
11600-5		35 - 20 - 116 - 18 -3	1
11601		35 - 20 - 116 - 18 141	1
11601-1		35 - 20 - 116 - 18-142	1
11602		35 - 20 - 116 - 18 4	1
11604		35 - 20 - 116 - 18 40	1
11605-1		35 - 20 - 116 - 18-126	1
11605-3		35 - 20 - 116 - 18-127	1
11606		35 - 20 - 116 - 18 5	1
13576-1		35 - 20 - 116 - 18 38	2
13576-3		35 - 20 - 116 - 18 39	1
23151-1		35 - 20 - 116 - 18 19	1
23152		35 - 20 - 116 - 18 15	1
23153		35 - 20 - 116 - 18 17	1
23182-1		35 - 20 - 116 - 18 10	1
23183-1		35 - 20 - 116 - 18 139	1
23184-1		35 - 20 - 116 - 18 133	1
23185-1		35 - 20 - 116 - 18 71	1
23186-1		35 - 20 - 116 - 18 123	1
23187-1		35 - 20 - 116 - 18-135	1
23188-1		35 - 20 - 116 - 18 68	1
23189-1		35 - 20 - 116 - 18 59	1
23191-1		35 - 20 - 116 - 18 124	1
23192-1		35 - 20 - 116 - 18 -64	1
23192-3		35 - 20 - 116 - 18 67	1
23193-3		35 - 20 - 116 - 18-131	1
23194-1		35 - 20 - 116 - 18 70	1
23195-1		35 - 20 - 116 - 18 72	1
23196-1		35 - 20 - 116 - 18 -57	1
23197-3		35 - 20 - 116 - 18 -63	1
23553-1		35 - 20 - 116 - 18 111	1
2800C10C		35 - 20 - 116 - 18 115	1
2808		35 - 20 - 116 - 18 6	3
		35 - 20 - 116 - 18 34	
2827-6		35 - 20 - 116 - 18 18	1
5100-43-W		35 - 20 - 116 - 18 65	1



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PART NUMBER	AIRLINE PART NO.	CH-SECT-UNIT-FIG-ITEM	TTL REQ
5133-12MF		35 - 20 - 116 - 18 45	2
		35 - 20 - 116 - 18 90	
68NTM-40		35 - 20 - 116 - 18 25	2
79-012-062-0250		35 - 20 - 116 - 18 16	1
79-012-062-0437		35 - 20 - 116 - 18 110	1